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BLUE JAY

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Editors: Anna and Ted Leighton, 328 Saskatchewan Crescent West, Saskatoon, SK S7M 0A4, Canada. E-mail : leighton@sk.sympatico.ca
Associate Editors : Mark Brigham, Rainer Ebel, Marlene Evans, Ronald Hooper, Stuart Houston, Joanne Marchand, Josef Schmutz, Robert Warnock. Proof-reader: Nancy Allan

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Blue Jay

Vol. 59 No. 2 June 2001 63 - 120

Birds

OBSERVATIONS ON BURDOCK-KILLED BIRDS IN KING'S PARK, WINNIPEG, MB. *Todd J. Underwood and Robyn M. Underwood* ... 64

DRAKE CINNAMON TEAL APPARENTLY INCUBATING A CLUTCH OF EGGS AT WHITEWATER LAKE, MB. *Carolyn Curtis* ... 69

WATERING OF DOUBLE-CRESTED CORMORANT CHICKS. *Thijs Kuiken* ... 73

NEST BOX DRAMA: HOUSE WREN VS. HOUSE SPARROW. *Garth Nelson* ... 78

FINNSTICKS: BIRDING FINNISH STYLE. *Karen L. Wiebe* ... 83

DIARY OF HOUSE FINCHES IN SOUTHWESTERN SASKATCHEWAN. *Brenda and John Flood* ... 85

OBSERVATIONS FROM BANDING HOUSE FINCHES IN THE FALL OF 1995 AT REGINA, SK. *Dale and Paule Hjertaas* ... 86

Plants

BURDOCKS IN SASKATCHEWAN. *Vernon L. Harms* ... 92

Notes and Letters

A FOOL-PROOF METHOD OF PREVENTING WINDOW COLLISIONS. *Peter Jonker* ... 100

IDENTITY OF SWALLOW RECOVERED IN BOLIVIA : A CORRECTION. *C. Stuart Houston* ... 101

HOUSE-DWELLING RED-WINGED BLACKBIRDS. *Sig Jordheim* ... 102

REDPOLLS IN 1999-2000. *Trish and Dick Santo* ... 102

BIRDS THAT GLOW IN THE DARK. *Leonard H. Greenberg* ... 102

REMOVAL OF NEST BOX MATERIAL. *Tomasz Wesolowski* ... 104

TAME MOOSE AND ARBOREAL WOODCHUCK. *Don Johnston* ... 104

SNAKE ON A WIRE. *Lorne Cherneski* ... 105

A RAFT OF BATS. *Carol C. Clarke* ... 106

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Poetry

HOMILY ON ASPEN LEAVES. *Rod Thompson* ... 108

Nature Library

BIRDS OF NORTH AMERICA CD-ROM VERSION 2.5. *Peter W. Thayer and J. David Diehl* ... 109

WILDFLOWERS OF ALBERTA: A GUIDE TO COMMON WILDFLOWERS AND OTHER HERBACEOUS PLANTS. *Kathleen Wilkinson* ... 112

TIGER BEETLES OF ALBERTA - KILLERS ON THE CLAY, STALKERS ON THE SAND. *John Acorn* ... 113

In Memoriam

WILLIAM MCINTYRE NIVEN, 1906 - 2001. *C. Stuart Houston* ... 115

Mystery Photo ... 117

OBSERVATIONS ON BURDOCK-KILLED BIRDS IN KING'S PARK, WINNIPEG, MB

TODD J. UNDERWOOD, Department of Zoology, University of Manitoba, Winnipeg MB R3T 2N2 and ROBYN M. UNDERWOOD, Department of Entomology, University of Manitoba, Winnipeg MB R3T 2N2.
Email: umunderw@cc.umanitoba.ca

Introduced species often have a negative impact on native flora and fauna through competition, predation, ecosystem alteration, hybridization, and introduction of disease.[1, 6] Four species of burdock (*Arctium* spp.) were introduced into North America from Eurasia.[3] Common Burdock (*A. minus*) and giant burdock (*A. lappa*) are the most common of the four species and are now found throughout southern Canada and the United States.[3] In order to reproduce, burdock plants produce seed-filled burs that are dispersed by hitching a ride on large animals that come into contact with them. However, for small animals, they can sometimes be deadly.

Recently, the impact of burdock on North American songbirds has received public attention.[9] Songbirds and other small animals, such as bats and insects, occasionally get entangled in and die on burdock burs.[4, 5, 11] Here, we report details of six new records of burdock-killed birds found in November 2000. We discovered one Least Flycatcher, four Nashville Warblers, and one Tennessee Warbler entangled in the burs of Common Burdock at King's Park in Winnipeg, Manitoba. To our knowledge, these observations are the first records of Least Flycatcher and Nashville Warbler entanglement in burdock.

Observations

We found the first bird, a Nashville Warbler, serendipitously while walking through King's Park on 4 November 2000. The warbler was on the edge of a burdock patch approximately 100 m long by 3-10 m wide that separated a wooded area from a large area of mowed grass. A more thorough search of this patch left us empty-handed but covered in burs. We then searched other areas of the park on 4, 5, 11, 12, and 26 November 2000. Our search effort totaled 8 person-hours and yielded five more burdock-killed birds. Two more birds were found on 4 November (another Nashville Warbler and a Least Flycatcher) and single birds were found on 5 (Nashville Warbler), 11 (Nashville Warbler), and 26 November (Tennessee Warbler).

The first Nashville Warbler was hanging upside down 1.1 m from the ground and 0.2 m from the top of the plant. It was attached to the burs mostly by feathers of the abdomen and left wing. The legs and tail also were caught (Figure 1). A string of five burs was attached to the breast feathers and left wing, but was not attached to the plant.

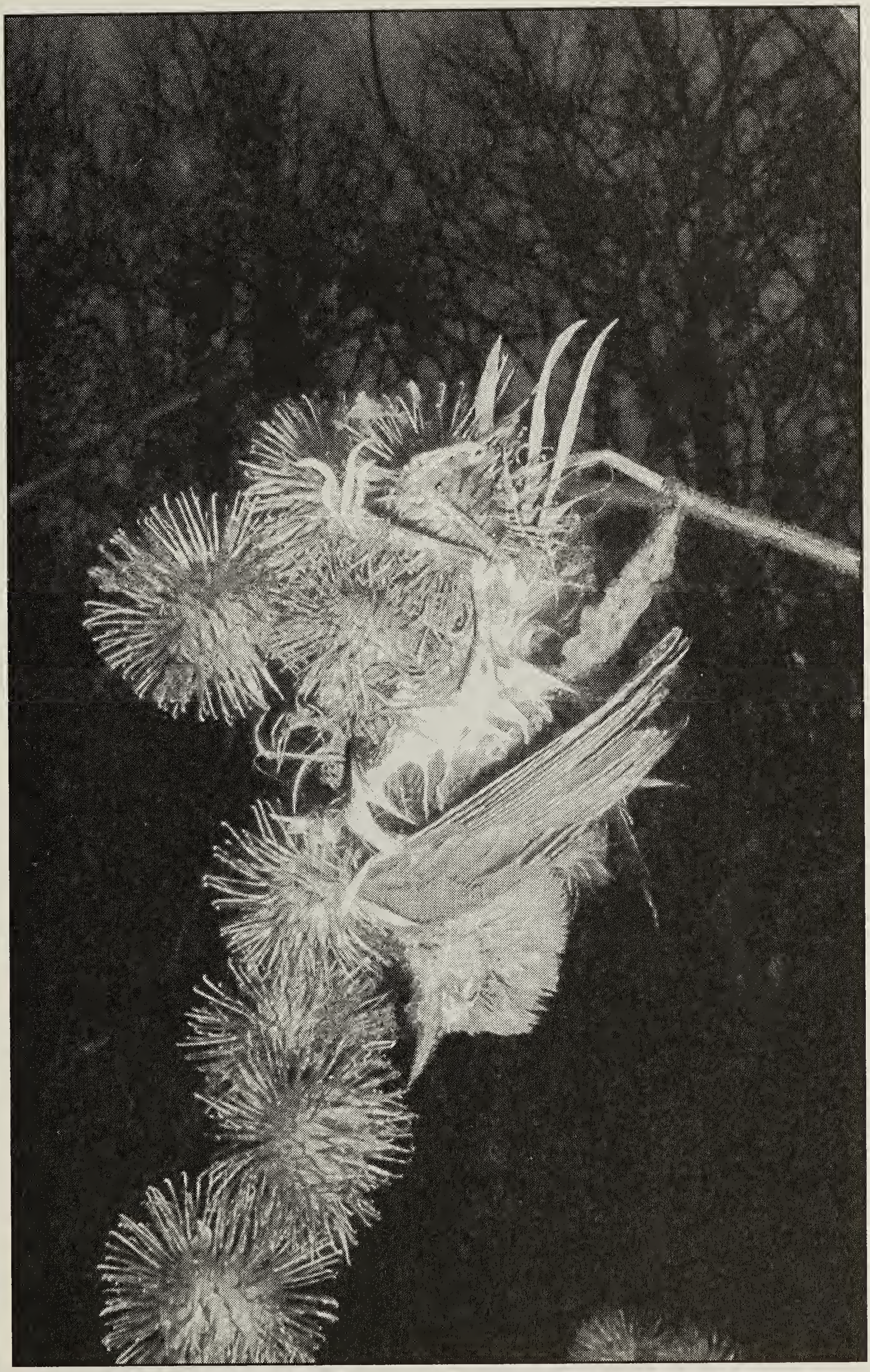

Figure 1. Adult female Nashville Warbler entangled in burdock burs
T. J. Underwood

The lack of a crown patch, its pale yellow throat and flanks, and rounded primary coverts identified this warbler as an adult (after hatching-year) female.[10, 7]

The second Nashville Warbler found on 4 November was located approximately 5 m from a path in an 8 by 8 m burdock patch in a sparsely treed area. It was caught between two burdock plants at a height of 1.7 m at the tip of one plant and 0.2 m below the top of the other plant. It was attached to the burs of one plant by feathers of the head, legs, right wing, and breast. The back and right wing were attached to the other plant. The feet also were entangled. Because of the poor condition of this specimen, species identification was based on measurements of the bill, wing, and tarsus [10] and comparison of the specimen with study skins in the University of Manitoba Zoology Museum. The exposed skull was completely ossified, indicating that the bird was an adult.

The third bird found on 4 November, a Least Flycatcher, was located in a single 20 m long row of burdock plants between a row of trees and mowed grass beside a road. It hung upside down 0.9 m above the ground. The flycatcher was stuck between the tip of one plant and a branch of another plant. The second branch from the top of the second plant was stuck to the right side of the bird. The wings, tail, abdomen and breast were entangled in burs (Figure 2). The buff wing bars, pointed primary coverts, and unworn primaries

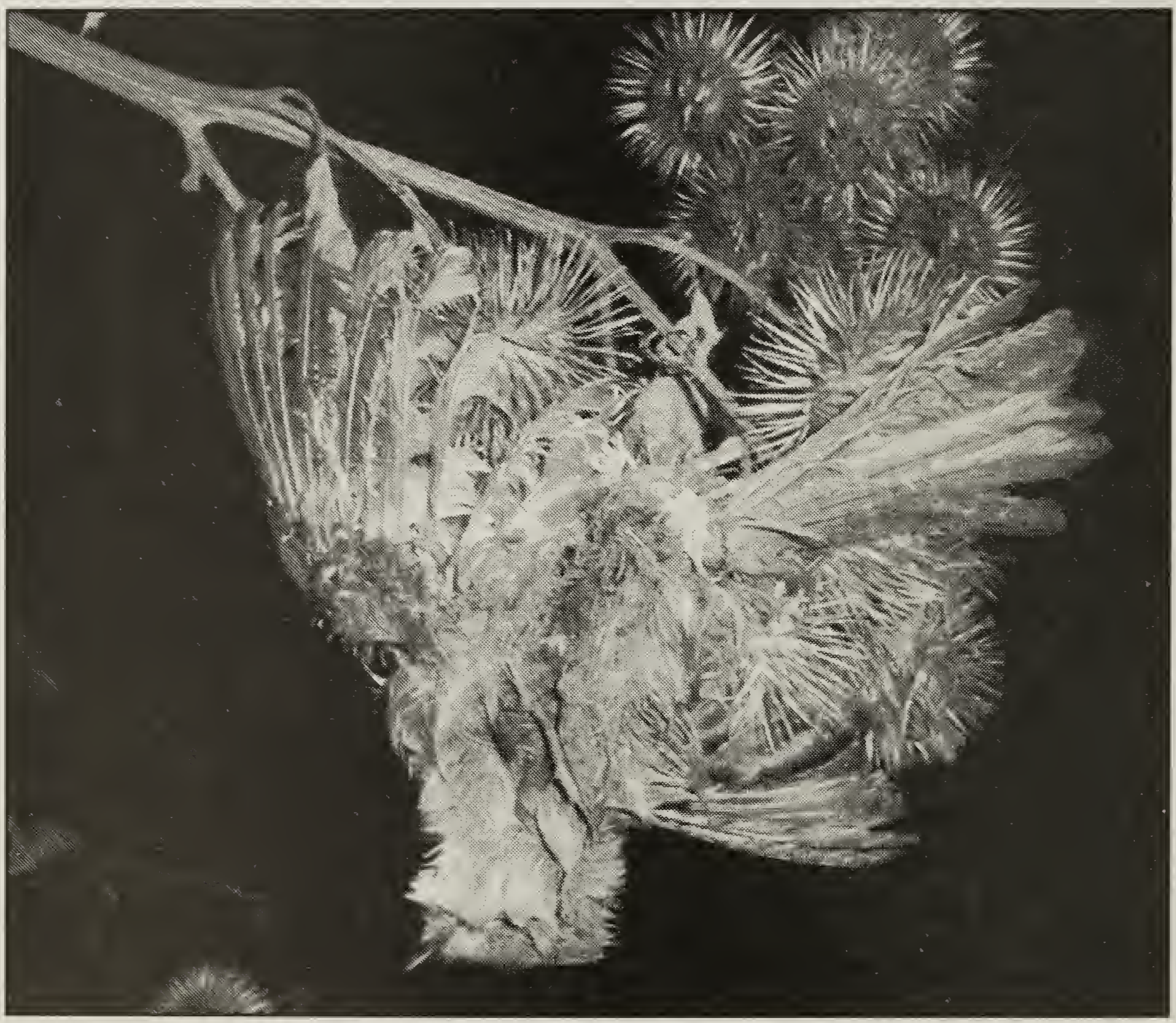

Figure 2. Immature Least Flycatcher entangled in burdock burs

T. J. Underwood

identified this Least Flycatcher as an immature (hatching-year) bird.[7, 2]

The Nashville Warbler discovered on 5 November was in an extensive burdock patch in a forest with a somewhat open canopy. This patch was approximately 75 by 50 m, with a path running through the middle of it. The bird was caught in a plant about 5 m in from the path and hung upside down 1.2 m above the ground and 0.4 m from the top of the plant. It was stuck between burs from the first and fourth branches from the top of the plant. The feathers of the breast, right wing, flank, right leg, and right foot were entangled in burs. This Nashville Warbler was identified as an immature (hatching-year) female because of its buff throat, pale yellow flanks, pointed outer rectrices, and pointed primary coverts.[10, 7]

On 11 November, we found the fourth Nashville Warbler in a burdock patch approximately 40 m long by 1-5 m wide on the edge of a strip of trees along the Red River. The bird was at the top of a plant, 1.2 m high, and hung upside down. Burs on the plant were entangled in both wings, legs and feet of the warbler, as well as feathers on the abdomen and left flank. The broad primary coverts and truncate outer rectrices suggest that this bird was an adult (after hatching-year) bird,[7] but its poor condition makes our age identification somewhat tentative.

The last bird was a Tennessee Warbler discovered on 26 November. The warbler was hanging upside down from the top of a very large burdock plant 2.9 m high on the edge of a dense 50 by 30 m patch of burdock located under an opening of the forest canopy. The bird was attached to the burs by the foot and feathers of its left leg. Species identification of this bird was based on its green plumage with white undertail coverts and comparison with museum study skins because the specimen was in poor condition. Identification of age or sex was not possible.

Discussion

Three of the six burdock-killed birds were in fairly good condition. The feathers had been matted by rain that had fallen throughout the previous week and the eyes were sunken. The somewhat rancid smell of the birds indicated they had begun to decompose. Their condition suggested that they died some time in the late summer or fall of 2000. In comparison, two of the Nashville Warblers, the second and fourth individuals, and the Tennessee Warbler were mostly decomposed; essentially, only bones and feathers were left. These birds probably died during the spring migration of 2000 or possibly the previous year during fall migration.

Additional evidence for the timing of entrapments comes from our observations of these species in King's Park from late July through the fall of 2000. We observed Nashville Warblers between 24 August and 3 October and Tennessee Warblers between 28 August and 23 September. *Empidonax* flycatchers were uncommon, and a single bird, unidentified as to species, was seen on 28 August. Adult Least Flycatchers migrate through southern Manitoba from mid-July to early August, whereas immature birds, such as the specimen found, migrate from late July throughout August and occasionally individuals are present until late September.[8]

These birds likely were foraging on or around the burdock plants when they became entangled. Strong winds, which have been suggested as a cause of burdock entrapment,[4] could have been the sole cause or could have contributed to their entanglement. Least Flycatchers forage from the top of the shrub layer up into the canopy (1 to 20 m off the ground) by hawking aerial insects or gleaning insects from vegetation.[2] In King's Park, we observed Hermit Thrushes, Tennessee Warblers, Nashville Warblers, Palm Warblers, and Song Sparrows perching in burdock. A Tennessee Warbler perched in and foraged throughout the burdock patch where the third Nashville Warbler specimen was discovered. In addition, several other bird species were observed foraging on the ground below burdock plants or perched on other plants and shrubs among burdock plants. These birds included Common Yellowthroat, Fox Sparrow, Lincoln's Sparrow, White-throated Sparrow, and Indigo Bunting. Larger birds, such as Hermit Thrushes, Fox Sparrows, and White-throated Sparrows probably can free themselves if they become stuck on burs. However, warblers and other small birds encounter a significant risk while foraging or moving about in a patch of burdock.

There was a mixture of ages in the birds we found. The Least Flycather was an immature, whereas there were three adult and one immature Nashville Warbler. These observations suggest that there is no age bias with regards to susceptibility to burdock entanglement, although the sample was small. Sex was identified only for two of the six birds, both female Nashville Warblers, precluding any conclusions on a gender bias to burdock entanglement.

We spent only a few hours searching in this small city park. We were surprised to find so many burdock-killed birds. Our observations suggest that burdock is the cause of many unnoticed songbird deaths each year.

Acknowledgments

We thank Spencer Sealy for reviewing the manuscript and for assistance with bird species identification, Heidi den Haan for assistance with bird age/sex identification, and Norm Kenkel for assistance with burdock species identification.

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A call for burdock (*Arctium* spp.) and bird information.
We are preparing an updated review of records of burdock-entangled birds. Except for records reported in this issue of the Blue Jay and unpublished records from Manitoba (Sealy unpublished data), we are not aware of any records of burdock-entangled birds from the prairie provinces. We encourage individuals to report any unpublished records of birds caught in burdock or observations of birds interacting with burdock. Please contact one of us at the addresses listed below. Any information provided will be acknowledged and greatly appreciated.

Todd J. Underwood, Heather L. Hinam, and Spencer G. Sealy, Department of Zoology, University of Manitoba, Winnipeg, MB R3T 2N2. Email: umunderw@cc.umanitoba.ca, umhinamh@cc.umanitoba.ca, sgsealy@cc.umanitoba.ca

DRAKE CINNAMON TEAL APPARENTLY INCUBATING A CLUTCH OF EGGS AT WHITEWATER LAKE, MB

CAROLYN CURTIS, 699 Brock Street, Winnipeg, MB R3N 0Z3

A western species, Cinnamon Teal are considered occasional visitants to Manitoba, with roughly 45 records of single males or males accompanied by unidentified females.[8] They have been recorded almost annually in Manitoba since 1974 in prairie sloughs and sewage lagoons. During the spring and summer of 2000, four drake Cinnamon Teal were reported from different locations in southwestern Manitoba. To date there have been no nesting records for Manitoba; however, there is one confirmed breeding record for Ontario in 1983.[3]

On 14 June 2000, a visiting birder from Ottawa saw a male Cinnamon Teal at Whitewater Lake in southwestern Manitoba. A male Cinnamon Teal was again seen there three days later by three local birders, when it flushed from the deep, dense grass along the dyke on which the group was walking. Upon inspection of the site, a nest containing 10 eggs was found. The question arose as to whether the bird flew off the nest itself, or was just sitting nearby, but one observer was confident that it had flown from the nest.

Two weeks later, I saw a male Cinnamon Teal in the water at roughly the same location, and a week after that on 12 July 2000, George Holland, Richard Staniforth and I saw it again. This time, the drake flushed less than 2 m from our position. Noting the exact spot from which it flew, we parted the grass and found a nest. Although unlikely, we were confident the bird had been sitting on the nest. He flushed with an agitated squawk and flew into the water, approximately 15 m away. There he continued to scold us as he swam back and forth, behaving much like a hen when disturbed from a nest. He remained in the area the entire time we were there. We counted a total of 10 eggs in the nest, recorded their colour, noted the nest structure and then quickly left the area so as not to further disturb the obviously upset duck. We did not touch the eggs to determine if they were warm, an oversight perhaps, due to our rush to leave the area without continued distress to the duck. No female Cinnamon Teal was seen in the vicinity on any visit to the area, nor was any other species of duck visible near the nest.

After leaving the site, we remarked that the eggs had seemed rather large for those of a Cinnamon Teal, though they were of the correct pinkish-beige or buff colouration and were oval in shape. The nest was constructed of sparse grasses and down, and was heavily lined with dark brown down. It was approximately 18 cm in outside diameter and 8 cm deep, within the normal range for this species.[7] It was situated about 1 m from the dyke, in dense Quack Grass (*Agropyron repens*) and 15 m from the water's edge.

Our next visit, on 27 July 2000, yielded a new scenario. There remained only three eggs (Fig. 1) and there was no sign of a Cinnamon Teal. The eggs were warm, though that was likely due to the midday sun shining on them. There was no evidence of predation; pieces of broken shell and dried egg membranes lay within the nest bowl, indicating that hatching had occurred. The three remaining eggs were now well past the normal incubation time of 21 – 25 days[1] or 25 – 26 days[9] and were unlikely to hatch. (In fact, the time difference between 17 June, the first sighting of the nest and 12 July, the second sighting, is 26 days, suggesting that the eggs likely hatched shortly after our 12 July visit to the site).

We measured the remaining eggs, which were identical in appearance and general size to the ones that had hatched, and found them to be an average size of 55mm x 39mm. This is larger than the average 47.5 mm x 34.5 mm for Cinnamon Teal, although eggs of this species have been recorded up to 53 mm x 37 mm.[2,4,9] The number of eggs, pinkish egg colour, and location and structure of the nest, not to mention the presence of a male Cinnamon Teal would suggest that they were indeed Cinnamon Teal eggs, but their large size could suggest otherwise. I found no literature, however, to suggest that they were the eggs of any other duck species. Though many ducks have eggs of a similar size, none appear to have those

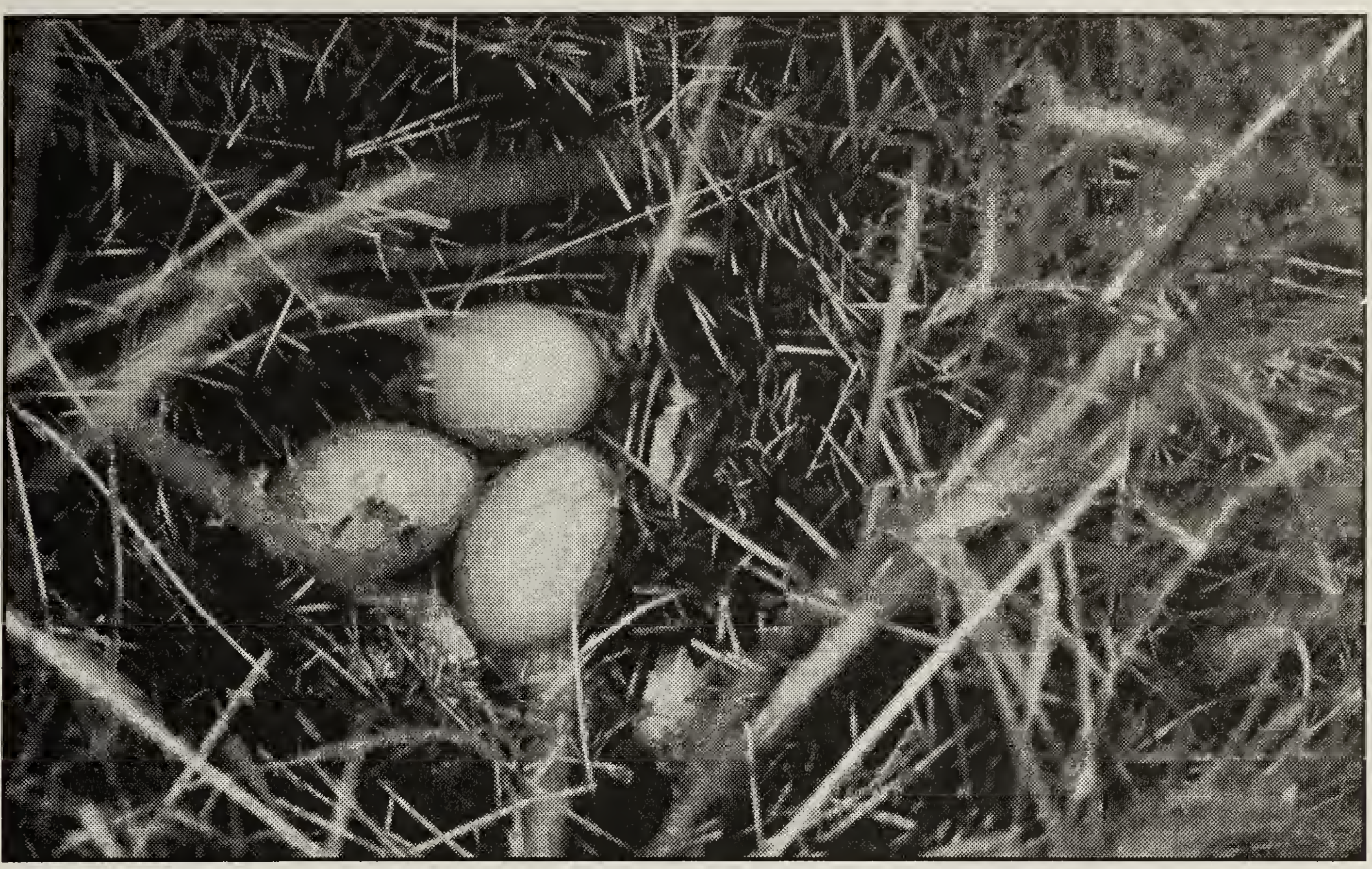

Figure 1. Three remaining eggs in Cinnamon Teal nest, Whitewater Lake, MB
George Holland

of the same pink colouration in combination with the size.

We informed local birders of our observations, inviting any plausible explanation for such unusual drake behaviour. Assuming it was indeed a Cinnamon Teal nest, why would a male incubate?

One suggestion was that perhaps the drake was not actually on the nest, but beside it and he flushed, thus allowing the female to slip away quietly. Despite the fact that we saw the drake fly from the nest itself, even this would be unusual, as male Cinnamon Teal are not normally involved with nesting. And further, no female was seen in the vicinity of the nest on any visit, not even a female of the look-alike Blue-winged Teal. Bellrose cited a report by Oring published in *Journal of Wildlife Management* (28:223-233, 1964), stating that "...25 percent of the cinnamon drakes deserted their hens in the second week of incubation, 63 percent during the third week, and the rest (12 percent) remained in attendance until the eggs were pipped."[1] Phillips cited contradictory observations of male involvement in nesting, indicating that males are frequently nearby when the female is incubating yet noted that other studies have shown males to be uninvolved with the incubating female or with the brood after hatching.[9]

Another suggested possibility for a male apparently brooding is that perhaps the female had died or abandoned the nest, so the male attempted to take over. Though unlikely in ducks, many male songbirds, woodpeckers and shorebirds participate in incubation; in fact, in some species the male does the majority of the incubating.

There is other evidence of drakes incubating. A male Wood Duck in Northumberland, England was observed incubating a deserted clutch of eggs for several weeks in June and July 1955. He incubated during the night, as typically does the hen, and incubated sporadically during the day. The nest was unsuccessful.[10]

In July 1968, a male Fulvous Tree Duck was seen incubating a clutch of 13 eggs. The bird was collected and its gender determined through dissection (plumages of the sexes in this species are identical). The eggs from the clutch contained 18-day-old embryos. Incubation behaviour by male Fulvous Tree Ducks had not previously been confirmed, though Whistling Tree Duck drakes reportedly share in the incubation of eggs.[5]

Finally, there exists the extremely remote possibility that the incubating duck was actually a female that had developed male plumage. Female waterfowl can assume male plumage when estrogen levels are low or missing.[6] The question remains, could there be little enough estrogen for a hen to assume male plumage, yet enough estrogen for egg production?

Whatever the reason for the presence of a drake Cinnamon Teal on a nest, as was seen by three seasoned birders, this behaviour is unusual, perhaps even more unusual than finding a Cinnamon Teal nest in southwestern Manitoba, well east of the normal breeding range.

Acknowledgments
Thank you to Peter Taylor for providing some research materials, Rudolf Koes for dates of observations and Robert Nero for his suggestions and review of the article.

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WATERING OF DOUBLE-CRESTED CORMORANT CHICKS

THIJS KUIKEN, Department of Virology, Erasmus University Rotterdam, Rotterdam, The Netherlands

Introduction

The Double-crested Cormorant is the most widespread of the six species of cormorants in North America.[1] In Saskatchewan, breeding colonies of Double-crested Cormorants are present in parts of the boreal forest and the prairies in summer; in winter, this species migrates south, mainly to the Gulf of Mexico.[1] A well-known aspect of its reproductive behaviour is feeding the young on regurgitated food, whereby the chick inserts its whole head into the mouth of the parent. [7] (See Figure 1.) A more unusual behaviour, and one that has been described only scantily, is the transfer of water from parent to young, i.e., watering.

As far as I know, watering in Double-crested Cormorants has been described only by van Tets.[6] In his study of cormorants on Mandarte Island, B.C., van Tets describes how Double-crested Cormorant chicks beg for water on hot dry days by waving the wide open bill upwards, in contrast to begging for food, which is done with the bill closed. In response, the parent descends to the sea, fills its gullet with water, immediately returns to the nest, and pours water down the throats of its chicks. According to Johnsgard's extensive review of cormorants, darters, and pelicans, similar behaviour occurs in Long-tailed Cormorants, Great Cormorants, Japanese Cormorants and Darters.[3] Here I provide further details on this behaviour in Double-crested Cormorants observed at a breeding colony in Saskatchewan.

Materials and Methods

A mixed breeding colony of Double-crested Cormorants and American White Pelicans on Island A, Doré Lake, Saskatchewan (54° 46'N, 107° 17'W) was studied each summer from 1994 to 1996. Observations were made every three days from the beginning of June, before any eggs had hatched, to the end of August, when most young had fledged, from within an 88-m-long tunnel-and-blind system to minimize disturbance to the birds. About 500 cormorant nests were visible from inside this system. The main objective of this study was to learn more about Newcastle disease and other causes of mortality in Double-crested Cormorants.[4] However, observations on the birds' behaviour also were recorded.

Results

Cormorants were seen watering two- to four-week-old chicks during warm (about 25° to 30° C) sunny periods, usually when there was no wind or a light wind. This behaviour was seen between about 1130h and 1630h on 23 and 28 July 1994; 20 July 1995; 11, 15, 19, 22, 29 July and 1 August 1996. On these days, the number of nests at which this behaviour was seen ranged from one to at least 20. During the periods when watering behaviour was seen, many cormorants and pelicans also showed gular fluttering.

Typically, a chick would face the attending adult (the behaviour was seen only when a single adult was attending the nest) and open its mouth wide (about 45° to 50°), with mandibles bowed

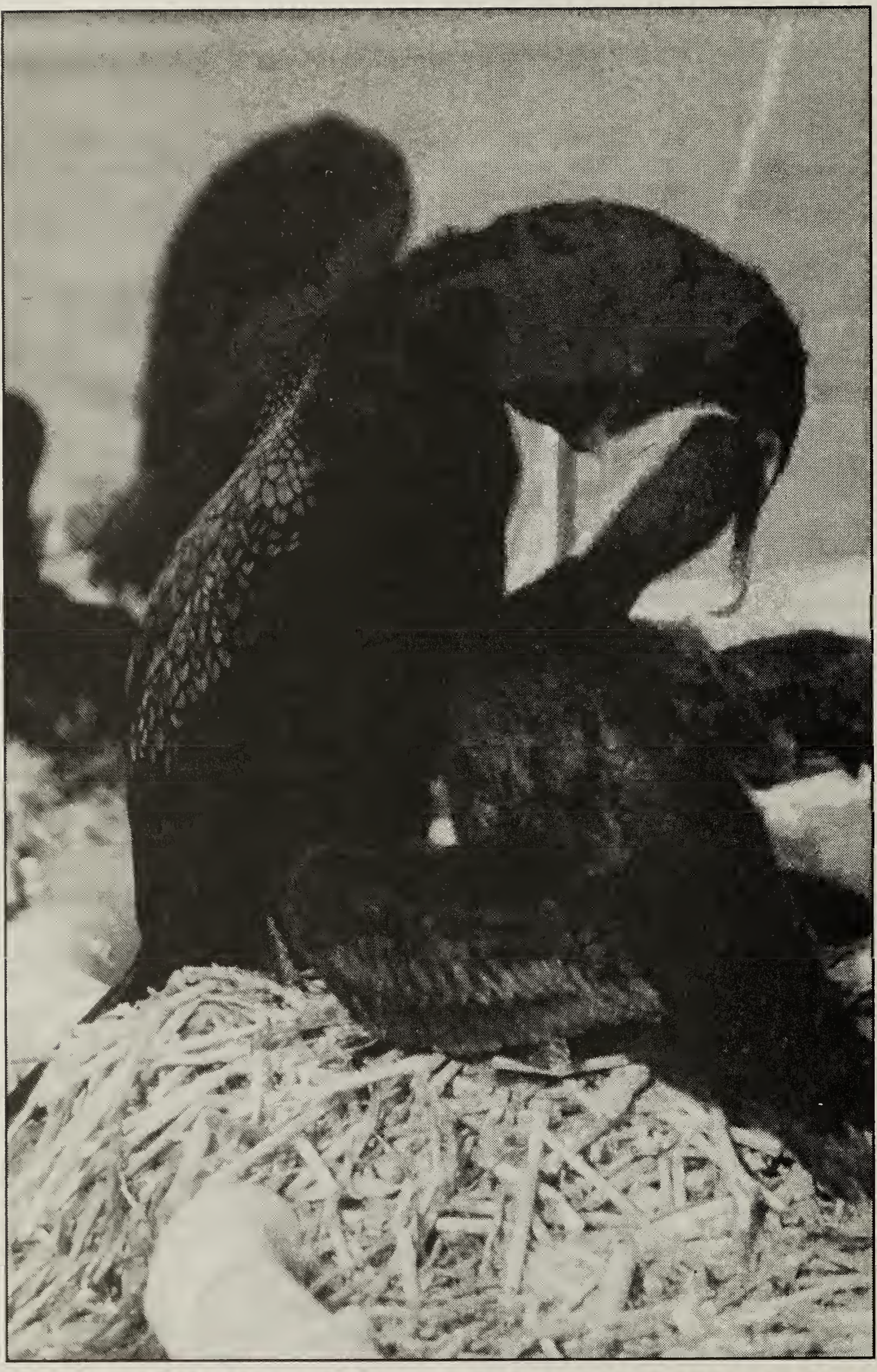

Figure 1. Adult Double-crested Cormorant feeding a chick. Note that the head of the chick is inserted into the adult's mouth.

Thijs Kuiken

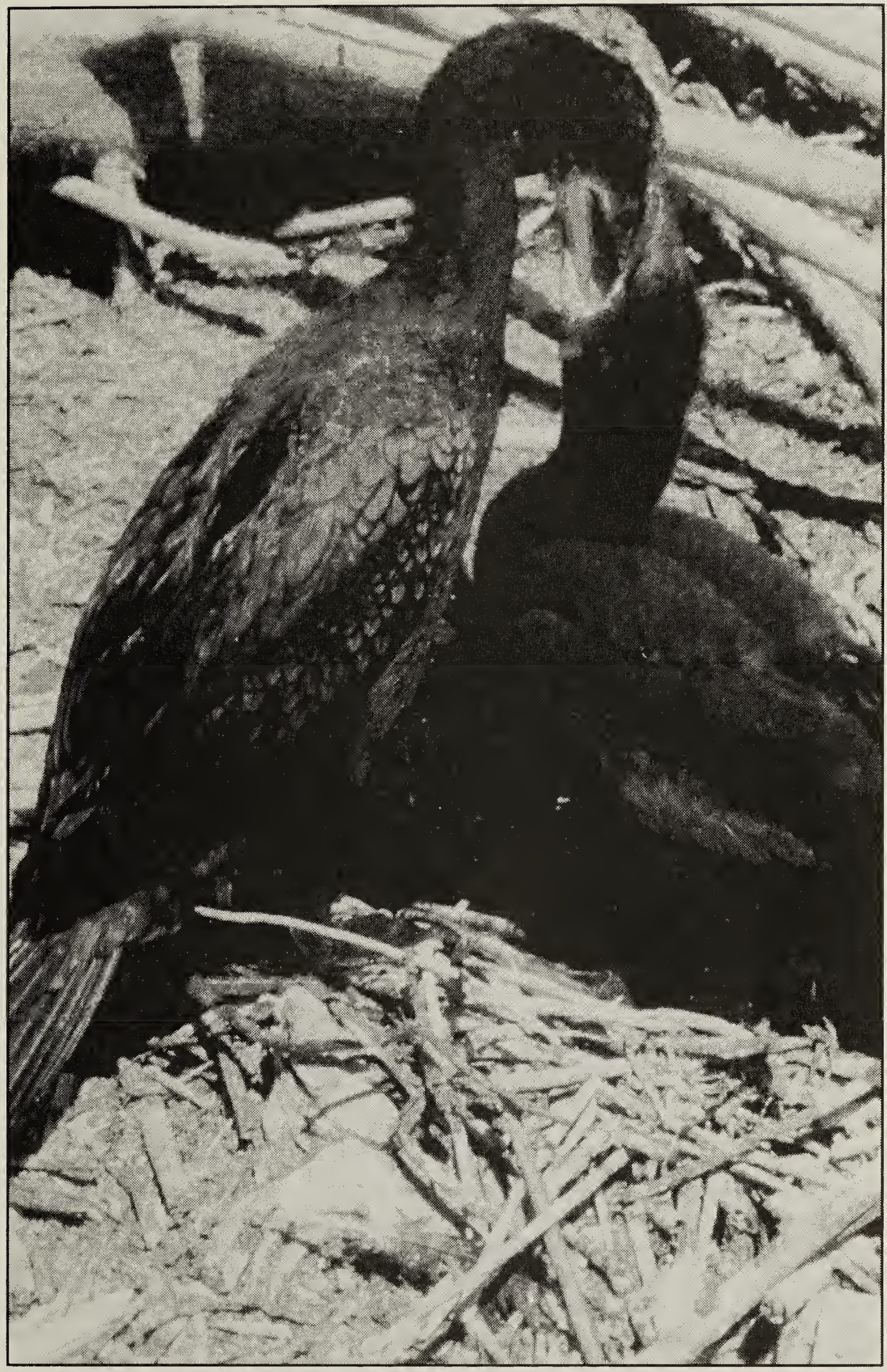

Figure 2. Adult Double-crested Cormorant watering a chick. Note that the head of the adult is inserted in the chick's mouth, which is wide open.

Thijs Kuiken

outward convexly and gular pouch distended. The head and wings were held still, with the wings close to the body. The chick made a sound similar to the threat call, with all component sounds made on exhalation: *eh – oh – ah – a-a-a-a-a.*

This behaviour differed distinctly from begging for food observed at the colony, where the chick kept its mouth closed, wove its head and neck from left to right, and flapped its wings. The food-begging sound also was different, similar to a wheezing donkey's bray, with the "eeh" made on inhalation, and the "uuh" on exhalation: *eeh – uuh – eeh – uuh.*

In response to this behaviour – and occasionally, in the absence of any visible water-begging behaviour from the chick – the adult attending the chick flew from the nest and landed in the water close to shore. It immediately started swallowing water by dipping its head under water with mouth partly open (30°) and gular pouch depressed. This head-dipping was repeated several times, up to a maximum of 13. Within a minute of landing in the water, the cormorant returned to the nest, either flying, walking, or a combination of both. It had a 3 to 5 cm diameter round bulge at the base of the neck and to the right of the median line. If the cormorant bumped against a branch on the way back to the nest, water spilled out of its mouth.

Back at the nest, the adult usually stood on a branch about 5 to 10 cm higher than the nest containing the chick. The chick started begging for water again, and the adult held its body and the lower part of its neck at a 45° angle relative to the horizon, sharply flexed the middle part of its neck, and pointed the upper part of its neck and its head downwards at a 45° to 90° angle. Occasionally the adult stood at the same level as the chick and then had to hold its body nearly vertically to be able to reach the chick's mouth. The adult put its head into the chick's mouth, up to the point where the adult's eye was level with the chick's mouth corner, allowed water to pour in for about 1 to 10 seconds, and then extracted its head (Figure 2). During this process, the adult's mouth was opened about 5° to 30°, and the chick's about 45° to 50°. The adult repeated this process up to 20 times in rapid succession, with the same chick or alternating with other water-begging chicks in the nest. After the adult stopped watering, it either started preening or returned to the lake to collect more water. One adult was seen collecting water three times for its chicks. After the water-begging chick received water, it either continued to beg for water, started to beg for food or stopped begging altogether.

Discussion

Watering behaviour was observed only on warm sunny days, when cormorant chicks showed abundant gular fluttering, an important cooling mechanism which acts through evaporation of water from the inner surface of the gular pouch.[5] Adult cormorants likely water their chicks to compensate for this extra loss of water.

The observations of parental care of both pelicans and cormorants at the same colony site raise the question of why cormorants watered their chicks, while pelicans did not. A possible explanation is that cormorant chicks have black plumage and thus absorb more energy from sunlight than pelican chicks, which have white plumage. With similar exposure to the sun, cormorant chicks require more gular fluttering than pelican chicks to keep their bodies cool and therefore lose more water through evaporation.

Adult cormorants carrying water had a visible bulge at the base of the neck at a location corresponding to that of the esophagus. Because Double-crested Cormorants have a highly expandible esophagus directly connected to a thin sac-like stomach, they probably carry water both in stomach and esophagus.[3]

The age of chicks being watered ranged from about two to four weeks. Beyond this age, chicks of ground-nesting Double-crested Cormorants start to leave their nest and would be able to obtain water independently.[2] The reason why watering was not seen in chicks younger than two weeks of age, despite the same intensity of observations, is not clear. Perhaps younger chicks are better protected from the sun by the shade of their parents and therefore do not lose as much water through gular fluttering.

Acknowledgments

Thanks to Ian Shirley for preparing the photographs in this article.

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The spectacular shifting sands [of the Lake Athabasca Sand Dunes] constitute the largest active dune environment in Canada, as well as one of the largest in the world north of 59 degrees latitude. Spread over a belt of some 1,500 square kilometres, largely between the major north-flowing rivers – MacFarlane River on the east, Dumville Creek and William River on the west – the extent of the dunes is such that from a distance, on cloudy days, they project on the sky a strange coppery glow. "

Stan Rowe, Home Place p. 97

NEST BOX DRAMA : HOUSE WREN VS. HOUSE SPARROW

GARTH NELSON, 529 Dalhousie Crescent, Saskatoon, SK S7H 3S5

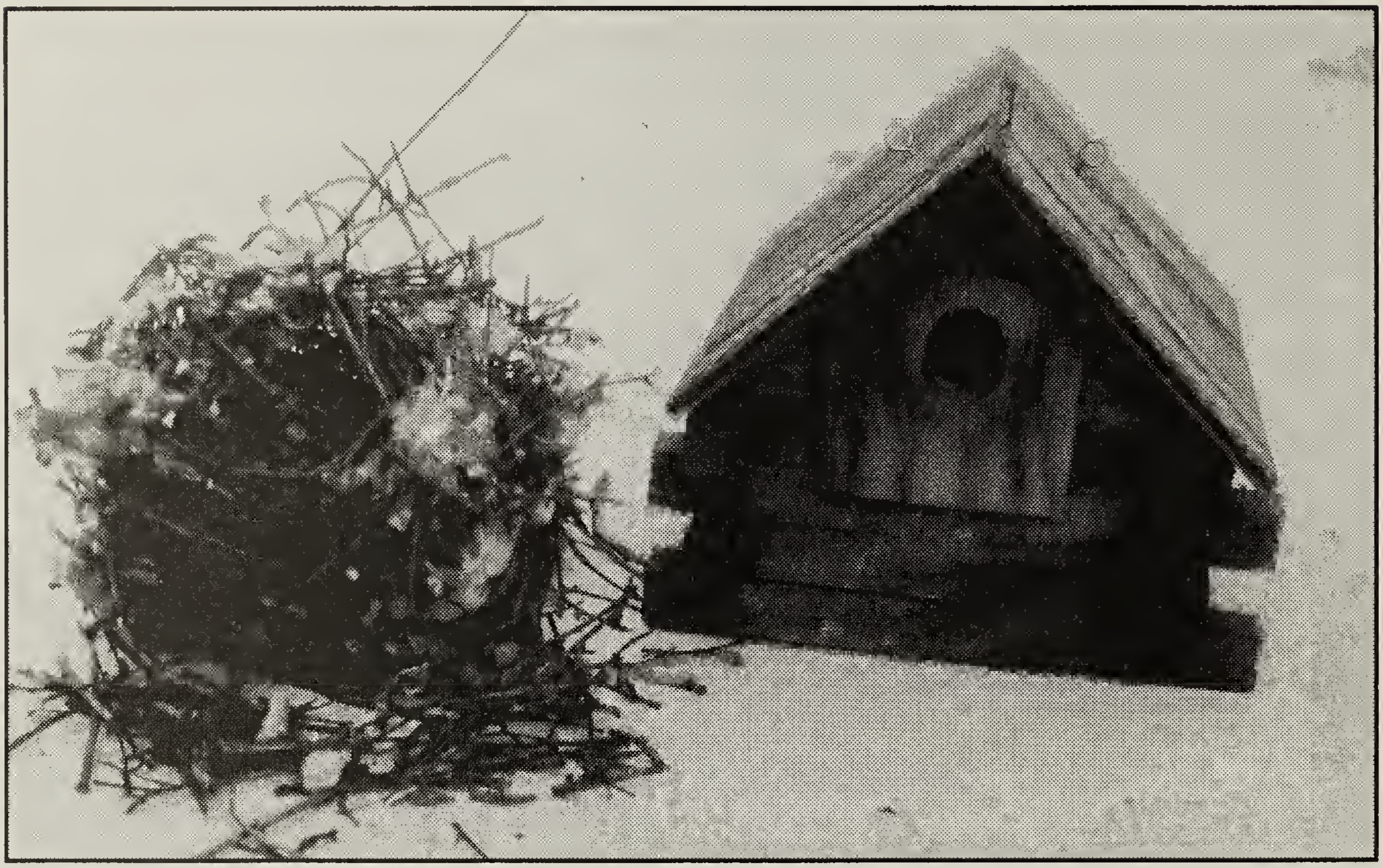


Figure 1. The disputed birdhouse and its contents, fall 1999 Garth Nelson

In 1997, we were seeking a tenant for our birdhouse. We were hoping to attract a House Wren, but ended up with a House Sparrow. And so, the following year, I altered the "doorway" of the birdhouse, so that only a wren would be able to get inside. Needless to say, although the wrens were happy with this renovation, the sparrows were furious. What followed was nothing less than a pitched battle.

May 24, 1998 : House Sparrows are still trying to get into our birdhouse. About a week ago I put up the birdhouse under the eaves of the garage. I had altered it so that the hole is 1 inch in diameter instead of 1¼ inches, hoping to keep out the House Sparrows and attract a wren. Two minutes after I put it up, there was a House Sparrow trying to get in, and the sparrows have been at it ever since. We did see a House Wren go in and inspect it early last week.

June 5, 1998 : Earlier this week we saw House Sparrows starting a nest on top of the birdhouse, wedged between the slanted roof of the birdhouse and the eaves of the garage. I took it down from the garage and relocated it in the crab apple tree. Today, House Wrens were in and out of it with nesting material. They were singing in our yard this evening.

June 6, 1998 : Some interesting bird dynamics today! After breakfast, we noticed the male House Sparrow frantically trying to get into the birdhouse while the House Wren fretted nearby, watching him intently. The House Sparrow was trying desperately to get in, but couldn't. After lunch, we noticed the contest continuing, but this time the wren dive-bombed the sparrow, who wasn't quite as frantic as at breakfast-time. This went on until a robin intervened. I saw the robin chasing the House Sparrow and Lillian thought she saw it chasing the wren. The robin perched near the birdhouse for a while, and the others kept their distance. After supper – sparrow still trying to get into the birdhouse with wren watching intently.

June 7, 1998 : At breakfast, a pair of House Sparrows were at the birdhouse trying to get in. Most of the time it was the female — the first time we've seen the female making the attempt. She got her head in a little further but had no more success than the male. At one point they were both trying to get in at the same time: a bit of a domestic squabble. We also saw them mating a couple of times. Through all this, there was no sign of the wren, although I heard it singing some distance away. The second half of the day saw very little action at the birdhouse — sparrows were observed a couple of times without trying to get in and there was no sign of the wren. Any time we looked from supper time on, there were no birds around.

June 8, 1998 : For the most part, no action around the birdhouse. After supper, the female House Sparrow checked it out and tried to enter, while the male watched, but they soon both flew off.

June 16, 1998 : The House Wren has returned to the birdhouse. Lillian saw it go into the house this morning and heard it singing. Around 1:30 PM, I saw it go into the house then drop to the ground looking for nesting material. It picked up several largish twigs, discarding each, then flew into the next yard.

July 12, 1998 : We heard, then saw, the House Wren for the first time since June 16th. It went into the birdhouse (al approximately 4 PM), stayed there for about 2 minutes, then came out and disappeared.

July 14, 1998 : Lillian heard and saw the House Wren again this morning. It went into the birdhouse again.

End of season: Took the birdhouse down in September. Didn't find much inside: just a few twigs.

June 13, 1999 : House Wrens visited our birdhouse again. House Sparrows have checked it out and tried to get in a number of times, but not as persistently or as frantically as last year.

June 14, 1999 : The House Wren has been busy all day, taking material into the birdhouse. It was interesting to see it manoeuver around to get long pieces into the hole. At one point, around noon, the House Sparrow and the wren were on either side of the birdhouse nattering at each other. The House Sparrow fluttered its wings. The wren's whole body was involved – wings flapping, tail flicking, body jerking from side to side on the branch. We could see its beak going. It was obviously saying dark things to the sparrow. The sparrow would light on the birdhouse occasionally. Earlier in the day, we noticed the sparrow chasing the wren. However, the sparrow didn't stick with it—not as aggressive as last year.

June 15, 1999 : The wren was busy all day again today, taking nest material to the birdhouse. The House Sparrows weren't around.

June 16, 1999 : The wren worked all day at nest-building. The House Sparrow was back again, challenging the wren. We watched the argument off and on most of the day. I watched the sparrow repeatedly try to get into the house. Then it would perch in various spots nearby while the wren, as it did yesterday, reacted with its whole body. I watched the sparrow sit for a long time – it looked very relaxed and non-plussed by the wren's antics. At another time – but only the once – I saw it fluttering its wings in a crouched position. The sparrow would take breaks and go away, and when it did, the wren returned enthusiastically to nest-building. At one point, the wren went inside and the sparrow came to the hole right afterward. I watched the sparrow, for about five minutes, try to get in. It got its head inside, repeatedly trying hard to enter. I would love to know what the wren was doing: cringing in a corner ? (not likely); pecking at the sparrow? (possibly); going about its business arranging the nest material? Who knows? The sparrow would let go momentarily, then continue as before. Eventually it went away. As I kept watching, I saw the wren's head appear. It stuck its head outside, looked around, then flew away to return shortly after with another twig.

June 17, 1999 : The contest goes on! Wren vs. House Sparrow. The pattern was very much the same as yesterday. House Sparrow comes and perches near the birdhouse and just sits while wren cusses at it and emphasizes every syllable with body movement. Periodically, the wren dive-bombs the Sparrow. At one point, as the wren was trying to get into the house with a beak full of twigs, the Sparrow zoomed down and hit it, knocking it away from the entrance. Whenever the Sparrow flew away, the wren wasted no time resuming its nest-building activity. This evening we saw it moving along the edge of the garage roof, feeding on insects between the edge of the shingles and the wood beneath.

June 18, 1999 : The House Wren-House-Sparrow drama goes on – same pattern. At one point, I saw the House Sparrow with its head in the hole, straining to get in further. It then withdrew with a bit of the wren's nesting material (dryer lint) in its beak.

June 19, 1999 : They're still at it! Wren still nest-building. House Sparrow continuing to harass it. The sparrow has taken to perching right beneath the birdhouse where the wren can't dive-bomb it. (The house is partially supported in the crook of two branches.) During the evening, the wren spent a lot of time just perched near the birdhouse, singing.

June 20, 1999 : The House Sparrow came to the birdhouse and looked in while the wren was in it. Previously, I saw the wren taking in a bit of dryer lint. Same patterns as previous days continued throughout the day. We sat outside most of the day. The Red-eyed Vireo was singing loudly to our left and the House Wren was singing loudly on the right in our crab apple. Yellow Warbler and Chipping Sparrow could be heard occasionally, as well as a robin. A crow perched atop a tall poplar back of our place, then came for a drink at our bath. Several Cedar Waxwings came and fed on insects/worms in the birch next door; Brewer's Blackbirds and Rock Doves flew over. Ten species altogether. Just before supper, the wren and House Sparrow were being more aggressive than I've seen them. The wren kept diving at the sparrow – very agitated, moving quickly from branch to branch around the sparrow. Every now and then the sparrow would fly at the wren.

June 25, 1999 : The wren has been working on its nest in the birdhouse for a week and a half with the House Sparrow waging a continued campaign of harassment. The wren has showed a very feisty nature – still dive-bombing the sparrow. In between times, the wren builds and sings energetically – singing in the rain today.

This pattern continued for the next several days. Then the observers were away on a trip from 29 June to 3 July.

July 4, 1999 : Wren still at birdhouse, singing all day. House Sparrow: saw it once, trying to get into the house.

July 5, 1999 : Didn't see the House Sparrow today, but wren very much around – singing – back and forth from nest. It's been three weeks today since it started building its nest. It doesn't seem to be taking nest material in now.

July 8, 1999 : The wren continues to sing lustily, and to go in and out of the birdhouse. We haven't seen the House Sparrow around the birdhouse since July 4. We still just see the one wren – have never seen two. We wonder if a female is inside on the nest – but haven't noticed the wren taking in food. It seems to have stopped taking nest materials in.

For the next two weeks, a wren was seen or heard only occasionally.

July 16, 1999 : Sitting outside in afternoon, we heard the wren in our yard, then saw it enter the birdhouse. It came out with a feather or bit of fluff in its beak. It was around while we were there – first time in several days that we have seen it near the birdhouse tree.

July 17, 1999 : The wren was busy at breakfast time, singing and entering the birdhouse. The House Sparrows are leaving it completely alone these days – haven't seen a sparrow trying to get in the birdhouse or challenging the wren since July 4.

July 18, 1999 : House Wren: singing most of the day, in and out of birdhouse. House Sparrows: 2 parents, 1 young.

July 19, 1999 : Didn't see or hear the wren in our yard until evening, when it paid one visit to the birdhouse. It made a sound we hadn't heard before: a kind of short chipping sound or rattle: "scolding chatter," "scolding grating chatter."

Rest of July : Only heard the wren once or twice.

End of season: opened birdhouse. Although a full nest had been built (Figure 1) there were no eggs inside. The nest wasn't used.

May 21, 2000 : House Wren appeared in the yard. We haven't yet put up the birdhouse.

June 3, 2000 : Put up the birdhouse.

June 5, 2000 : Around 5 p.m., saw the House Wren. It was on top of the birdhouse, then a little later it went inside for a few minutes, looked out from it a couple of times, then flew away. The House Sparrows have left the birdhouse completely alone.

June 6, 2000 : The House Wren appeared and sat next to the birdhouse. When the wren was not around, a House Sparrow tried to get into the birdhouse, but couldn't.

June 9, 2000 : Saw the House Wren near the birdhouse, but not in it.

June 11 & 12, 2000 : The House Wren has been in the yard and I have heard it singing. But it hasn't been going into the birdhouse.

June 13, 2000 : The House Wren is back and is now going into the birdhouse. I have seen it flying back and forth, with

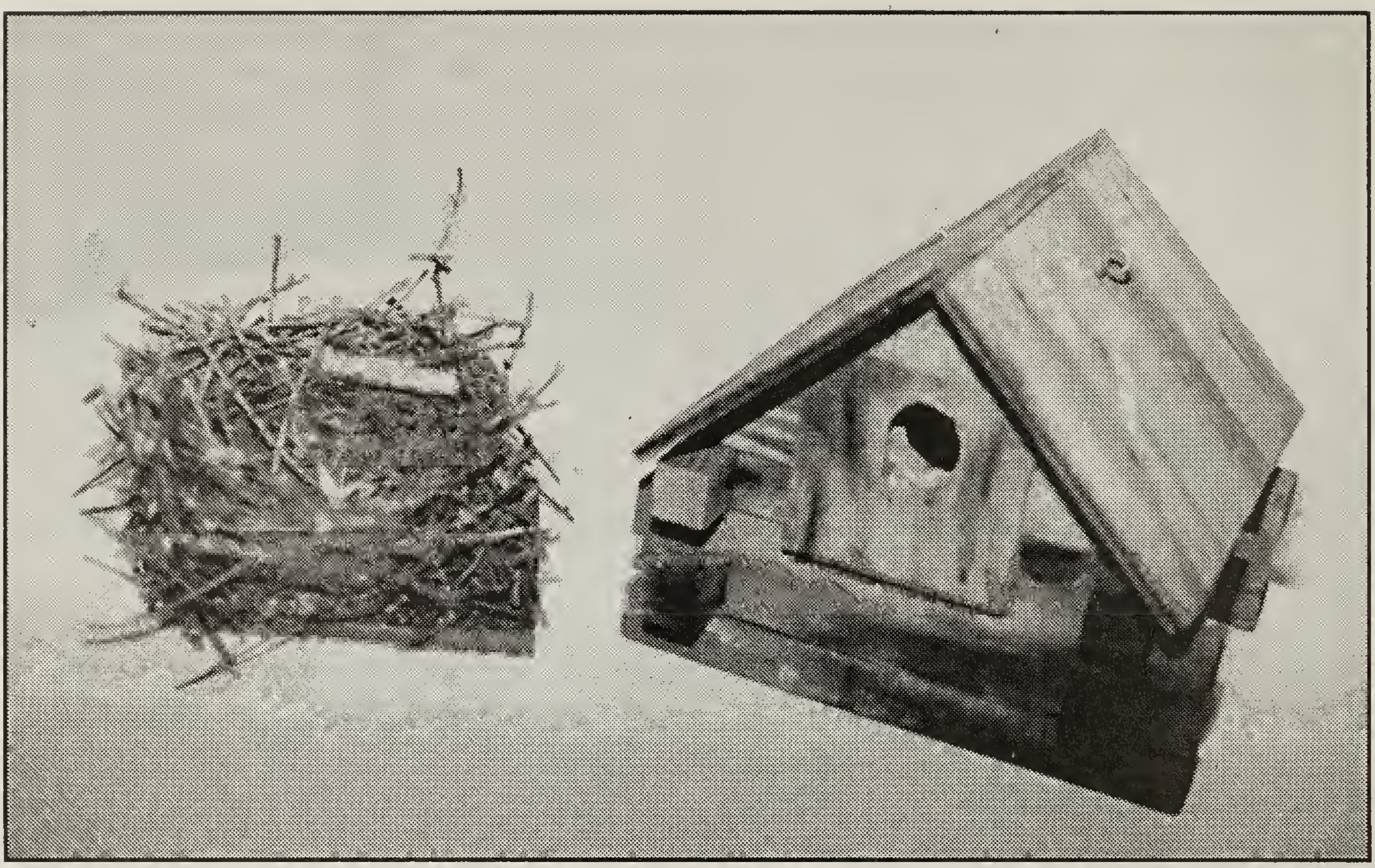


Figure 2. Birdhouse and the wren nest, fall 2000 *Garth Nelson*

twigs. It was quite busy, bringing nesting material to the house. House Sparrow was there, but didn't bother it.

June 15 & 16, 2000 : Saw the House Wren on both days, busy carrying twigs and material into the house.

June 17, 2000 : Around 9:00 AM, saw both House Wrens, male and female, busy around the birdhouse. This is the first time we've ever seen both wrens there at the same time.

June 18 – 20, 2000 : House Wren busy working at the nest in the birdhouse.

June 21, 2000 : House Sparrow tried to get into the birdhouse. But the House Wren fought it off.

July 13, 2000 : Again, both House Wrens were in the yard, busy working at the nest.

July 18, 2000 : Both House Wrens have been busy. I think they may be engaged in feeding their young.

July 23, 2000 : We definitely saw several young House Wrens in the birdhouse and could hear them singing.

July 24, 2000 : I saw four House Wrens, including 2 young, in the back yard this afternoon. So I assume the young wrens have left the birdhouse.

August 30, 2000 : 2 House Wrens.
At the end of the season, the house was again full of nest (Figure 2), and this time had clearly been used to raise young.

Acknowlegments

I would like to thank my son Greg for his help in preparing this article.

FINNSTICKS: BIRDING FINNISH STYLE

KAREN L. WIEBE, Biology Department, University of Saskatchewan, Saskatoon SK S7N 5E2

History

According to recent surveys, Finland has more birders per capita than any country except Great Britain. Soon after arriving in Finland in January, 1996, I found a local group of birders to join during weekend field trips. One of my first outings was to Hanko, a peninsula that juts into the Baltic Sea from southern Finland, analogous to Canada's Point Pelee It was here that I was first introduced to the finnstick. Looking outward over the Baltic was a birder with his binoculars balanced strangely on the end of a small pole. I jabbed my Finnish birding companion in the ribs "Must be some crazy Brit," I commented. "Actually, that's a very useful Finnish invention," Seppo replied proudly. "You should try it!"

I learned that the finnstick has two major functions: 1) to reduce the vibrations while looking through binoculars and 2) to allow the arms and hands to rest while holding binoculars for extended periods. With the stick, one can watch birds intensively for several hours without discomfort (Fig. 1). Though not very useful for warbler-watching in forests, finnsticks are great for scanning open areas such as prairies, lakes or ocean shores. In fact, many Finnish birders prefer binoculars and finnsticks over spotting scopes when conducting waterbird surveys during migration; binoculars offer a wider field of view and make it easier to track flying birds.

There seem to be many fanatical migration-watchers in Finland. Even in

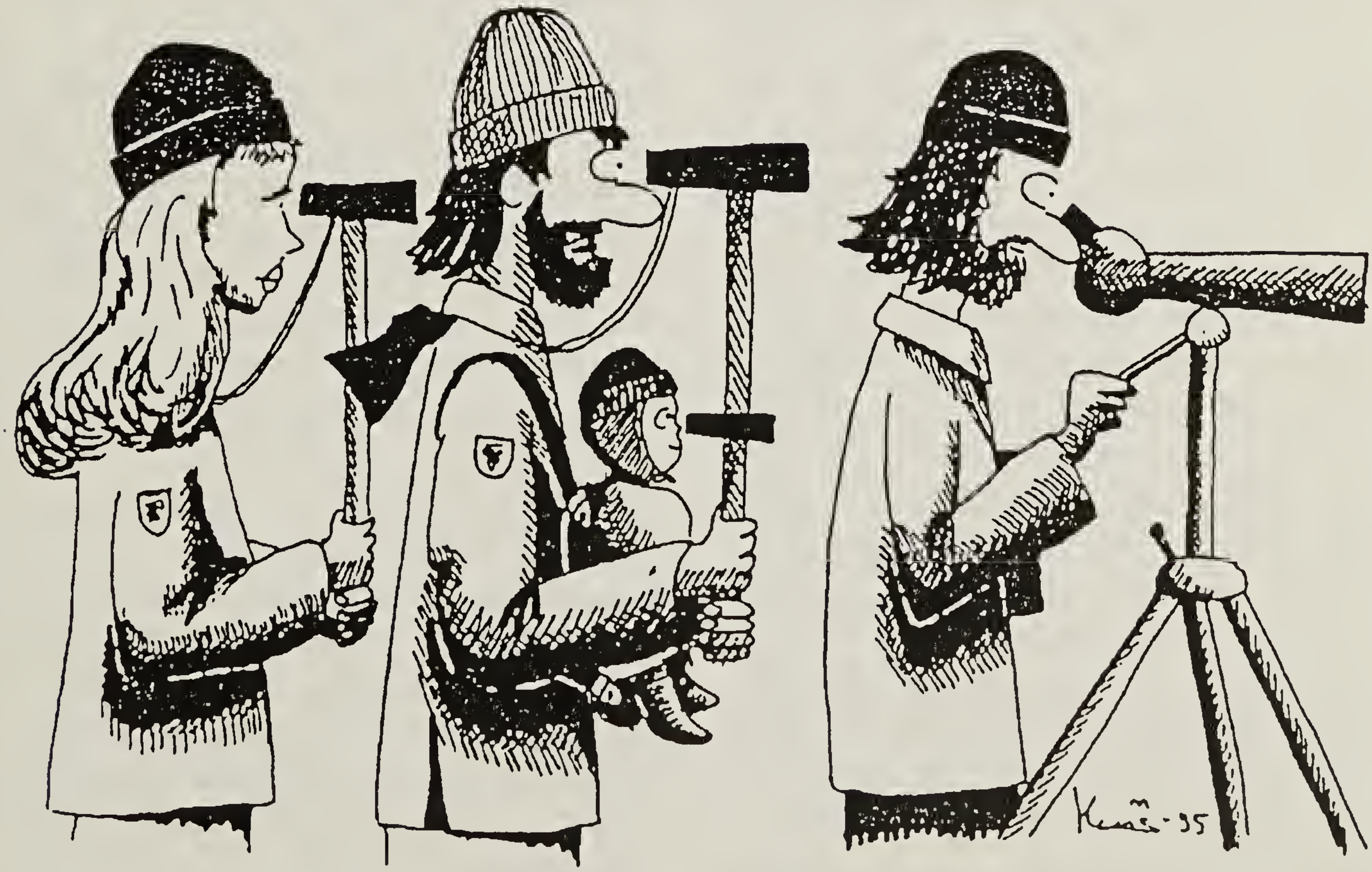


Figure 1. Method of using a finnstick as illustrated by Matti Koivula. Cartoon appeared in "Ornimisen sietämätön keveys" and is reproduced with permission.

the coldest weather, bird towers were crammed with people who spend hours (or days) up there hugging their thermoses of coffee. News of a rare bird was spread rapidly by an electronic pager system, and most serious birders wore pagers on their belts. The Finnish name for the stick, *staijikeppi*, (migration-watching stick) reflects its popularity for watching migrating birds. However, this *monikäyttöesine* (all-purpose object) comes in handy for many other functions such as swatting mosquitoes, scratching your back, or clearing vegetation. The wooden pole of my own finnstick is cracked after having beaten it against a tree trunk to scare a black bear away from my students!

The finnstick is not a new invention, but is something not often seen among North American birders. First used in Finland around 1968, it is now common there and many serious birders own one. For more details about their history and development, see an article in the Finnish birding journal *Alula* 1/1996 (in Finnish and English), and another article in *Birding* 25: 264-5.

Making Finnsticks

No two sticks are alike because there is no commercial supplier. To make one requires a little time but is not difficult or expensive. The simplest sticks are made from a single piece of carved wood; others are made of two parts: a small wooden block whittled to fit the underside of one's binoculars and a pole about 3/4 m long. Usually the whittled base is carved of some hardwood such as oak which is durable, but softer woods like pine are not uncommon. The trick is to get the right shape to support your binoculars securely (Fig. 2). You may need to take into account the distance between your eyes, i.e., the normal position of your binoculars when you use them. The length of the pole varies according to individual preference. Most end at the chest, or stomach, but cut it a little long at first and trim it later for maximum comfort. Poles are usually glued and/or screwed to the block, but duct tape does in a pinch!

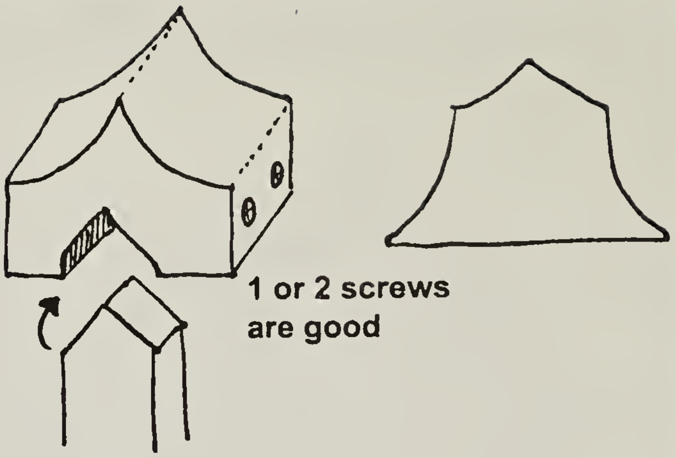


Figure 2. Two examples of wooden blocks in side profile carved to fit under binoculars. The length of the block, the dotted line, never extends past the barrel of the binoculars. A simple way to attach the pole is shown; those with woodworking expertise may want to attempt more elegant variations.

During my year in Finland, I noticed many creative and artistic variations on the theme. The "pole" was often an old hockey stick - a quintessential symbol of Finnish (as well as Canadian) culture. Some were carved from a single beautiful piece of polished and knotted maple, others were carved from an old canoe paddle or even made from materials like plastic or metal (don't lick the metal ones in winter). One had the pole-section constructed from an old collapsable tripod-leg so it could fold neatly into a backpack. A few competitive birders, in the fashion of the Red Baron, marked their pole with "lifer-notches" to commemorate past exploits.

When using the finnstick, always keep the binocular strap around your neck to prevent them from falling off accidentally. Rarely, I observed binoculars tied directly to sticks with strings or rubber bands so that the birder could quickly drop his/her arms to use a scope while leaving the whole binocular-stick complex dangling from the neck. So, why not try making a stick of your own? It's fun to personalize your own functional creation. Especially for people without, or unwilling to carry, heavy scopes and tripods, finnsticks greatly increase your endurance and view in open habitats.

* * *

DIARY OF HOUSE FINCHES IN SOUTHWESTERN SASKATCHEWAN

BRENDA AND JOHN FLOOD, Box 475, Leader, SK S0N 1H0
e-mail: hiwater@sk.sympatico.ca

We moved to Leader from Calgary in June 1990. The first things out of the moving truck were, of course, our bird feeders.

We were delighted when the first male House Finch arrived at our feeders on April 23, 1995. The bright red male was observed again on April 25. The next time we saw a House Finch was a year later, when a red male visited our feeders each day from April 9 to April 11. On April 22, we observed two male House Finches that were orange variants, clearly different from the one we had seen earlier. We saw the first female House Finch on May 20, and again on May 29 and June 3.

The following year, on April 6, 1997, we again observed a red male House Finch at our feeders and a male and female pair together on April 19. A female was seen again on May 28. In 1998, four red male House Finches visited the feeders on April 3. A female was seen on May 5 and 6, and a red male on May 7. Our first fall visitors were a red male on October 8, 9, 11 and 12, and a female on October 23.

In 1999, a year with a significant increase in the number at our feeders, House Finches arrived in March and stayed right through the winter. The first arrivals were a red male on March 23 and a female on March 28. April 28 brought an orange variant male. Pairs were feeding each other on April 24 and on May 10. We consistently observed two red males, plus one orange variant, and two females throughout the entire spring and summer months. We surmise that the House Finches nested successfully in the area.

During the fall, from September through October, three females and two red males were observed. At least one pair visited the feeder regularly from November through March, with two males and one female on December 11 and 12.

The spring of 2000 brought even more House Finches. On April 6, there were two males and one female, and on April 10, three females and four red males. A red male was observed feeding a female on April 30 and May 2, and an adult feeding an immature was noted on

June 12 (red, adult male) and July 3 (adult female). Throughout June and July, two red and one yellow male as well as two females were regular visitors. The yellow variant male was first seen on June 14. From July 26 to 29, we had six females (this number could possibly include immatures). An orange variant male was seen on August 9.

Throughout the beginning of August, up to six finches were seen at one time, with young being fed. On August 20, eight House Finches visited the feeders, including five females/immatures, one red adult, two pink immatures and one yellow variant male. On August 27, the number increased to eight females/immatures and two red, one pink and one yellow male. House Finches were feeding in early September 2000 in mixed flocks with House Sparrows. We watched an immature House Sparrow begging food from an adult female House Finch that moved away and did not feed it.

On September 2, there were fourteen females/immatures plus four bright red males. Over the next few weeks, the female/immature numbers stayed between eight and ten, and the males, up to eight: four bright red, two pink, one yellow and one orange. Six to eight House Finches visited our feeders until the end of October.

On November 5, the weather turned cold and snow began to blow around 2:00 a.m., continuing through much of the day. Along with a variety of birds at the feeders, we had seven female House Finches, and seven red/pink, one orange and one yellow male. The same numbers were here again on November 6. The House Finches were very aggressive towards the 200+ House Sparrows that push their way to the feeders.

The different color variants at our feeders is certainly a nice change from the huge flocks of House Sparrows that are attracted to our feeding stations. We are pleased that the House Finches seem to have nested successfully here. We had from four to fourteen House Finches visiting the feeders right through to the end of March 2001. With the arrival of spring, their wonderful song is a delight through the open kitchen window. It will be interesting to see if the numbers continue to grow throughout the summer.

OBSERVATIONS FROM BANDING HOUSE FINCHES IN THE FALL OF 1995 AT REGINA, SK

DALE AND PAULE HJERTAAS, 15 Olson Place, Regina, SK S4S 2J6.

The House Finch is native to western North America, where it occupies habitats from open desert to urban areas in southern British Columbia east to Montana and south to southern Mexico. In 1940, a small group of House Finches taken to Long Island, New York for the cage bird trade, were released locally.

They became established and spread north, south and west through most of the eastern United States and southern Ontario and Quebec.[7]

House Finches were first reported in Saskatchewan in 1959 with three subsequent reports in the 1970s. These early sightings are thought to have been strays from the western population.[2] The next sightings were several birds seen in the late 1980s and these could have come either from the east or the west. Saskatchewan numbers were still low at the end of the 1980s, and by October 1990, only 11 House Finches had been reported in Saskatchewan.[2, 8]

By 1995, the House Finch was clearly increasing in Saskatchewan, but numbers still appeared to be small. The 1994 Christmas Bird Counts recorded this species in three locations – Regina reported 14, Weyburn 16 and Whitewood 4. House Finches were observed during the 1995 Christmas Bird Count period at Saskatoon and Fort Qu'Appelle. [5]

We first observed a House Finch, a lone male, in our yard at 15 Olson Place, Regina on 17 May 1994. The next observation was in November 1994 when we recorded 12 House Finches on both the 11th and 20th. Our next recorded sighting was of 14 birds observed on the Regina Christmas Bird Count at our feeder on 26 December, 1994. Ten were still present 10 January 1995 but through the rest of the winter we recorded House Finches only on 23 February (4) .

We started seeing them again on 28 April 1995, and then saw one or two, often a pair, throughout the spring. The largest numbers observed in spring 1995 were four on 17 May and 22 May, and 11 males on 20 May. A male was recorded singing on 13 and 19 May and our first confirmation of local breeding was on 26 May when a juvenile, still showing tufts of down, visited our feeder. Thereafter, we observed House Finches occasionally, never more than a family group. The only spring banding that we did in 1994 was on 22 and 23 May when we banded one and seven birds respectively.

In the fall of 1995, the largest flocks were 10 on 15 October, 11 on 6 November, and 9 on 9 November. One to five birds were seen on 5 dates between 8 November and 13 December, after which they apparently left.

Except for the one group of 11 males in May, 1995, all these observations were consistent with our belief that a small group of no more than 2 or 3 pairs with young were resident in our area. Our banding, however, showed a very different picture.

Our banding station is in our back yard at 15 Olson Place, Regina. This part of Regina was developed in the early 1960s; the trees were almost 40 years old in 1995. Large spruce and poplar, Green Ash and mountain-ash as well various shrubs provide cover. Bird feeders and sunflower seeds scattered on the ground help attract birds.

Two mist nets were set up along the lawn edge to capture birds as they moved from feeders to trees. Several single bird traps also were used, although most captures were in mist nets. Nets were only open when one of us was available to handle the birds. Captured birds were removed at least every 30 minutes, bagged, weighed, measured, banded and then released.

In the fall of 1995, we began banding operations on 29 August and continued until 6 November. We captured the first House Finch on 23 September. Table 1

Table 1. Number of House Finches captured and number of days nets were open by week at 15 Olson Place, Regina in fall 1995

Week Beginning	# Days nets open	Finches Captured
27 August	4	0
3 September	3	0
10 September	4	0
17 September	4	1
24 September	6	1
1 October	7	5
8 October	4	19
15 October	7	37
22 October	4	16
29 October	3	5
5 November	1	1

shows the captures (and 3 recaptures) for this period, week by week, through 6 November when we banded the 81st House Finch of the autumn. One additional bird escaped before banding, so we probably handled 82 individuals. Since none of these was a recapture of one of the 8 banded in the spring, we handled a total of 90 House Finches in 1995, far more than the one or two families and several transients we had thought were present in our area.

It is doubtful that we captured every bird that visited our yard; indeed it was rare for more than 25% of the House Finches observed in our yard at any one time to be banded. We also doubt that all House Finches in Regina chose to visit our yard. The total population in or passing through Regina in fall of 1995 may therefore have been significantly larger than the 81 birds we banded.

Unfortunately, our skill at aging and sexing these birds was still developing. As a result, the majority (52) were classed as of unknown age. Twenty were identified as young of the year and only 13 as in their second year or older. There were three recaptures: one banded 11 October and recaptured 19 October, and two banded 15 October and recaptured 24 October. All were of undetermined age and sex.

Besides the large number of birds captured, the other striking feature of these data is the dates of capture. If all of these finches had been resident, we would have expected a steady catch rate throughout the fall with a significant number of recaptures. Instead the number captured showed the pattern typical of a migrating population, such as that shown by the juncos or White-throated Sparrows we also band. We banded one House Finch on 23 September, almost a month after we began banding operations. Table 1 shows that numbers gradually increased to peak in the week of 15 October, then declined until we quit banding due to colder weather on 6 November. This pattern is suggestive of migration.

House Finches in the original western part of their range show little migratory behaviour [1,7]. However, this species has developed migratory behaviour since becoming established in the east [7] and although some eastern birds do remain in breeding areas all winter, the majority migrate. Migration distance has varied with study area, but was short in each of two studies, 112 km along the eastern seaboard and an average of 345 km in the American Midwest [3,4].

In conclusion, the banding data clearly show that the House Finch population at Regina was increasing rapidly by fall of 1995 and show that this population was mobile. This mobility may be migratory, as reported in eastern North America, with some birds resident, or the movement we observed may simply be movement within the city. Wintering areas of these birds, if they migrate, are unknown. Perhaps future band recoveries will answer this question.

1. Aldrich, John W. & John S. Weske. 1978. Origin and evolution of the Eastern House Finch population. *Auk* 95:528 - 536.

2. Bancroft, Jean & Robert J. Parsons. 1991. Range expansion of the House Finch into the Prairie Provinces. *Blue Jay* 49 : 128-136.

3. Belthroff, James R. & Sydney A. Gauthreaux Jr., 1991. Partial migration and differential winter distribution of House Finches in the eastern United States. *Condor* 93: 374-382.

4. Hamilton, Thomas R. 1991. Seasonal movement of House Finches in the midwest. *North American Bird Bander* 16(4): 119-122.

5. Harris, Wayne C. 1995. 53rd Annual Saskatchewan Christmas Bird Count - 1994. *Blue Jay* 53(2):71-91.

6. Harris, Wayne C. 1996. 54th Annual Saskatchewan Christmas Bird Count - 1995. *Blue Jay* 54(1):7-30.

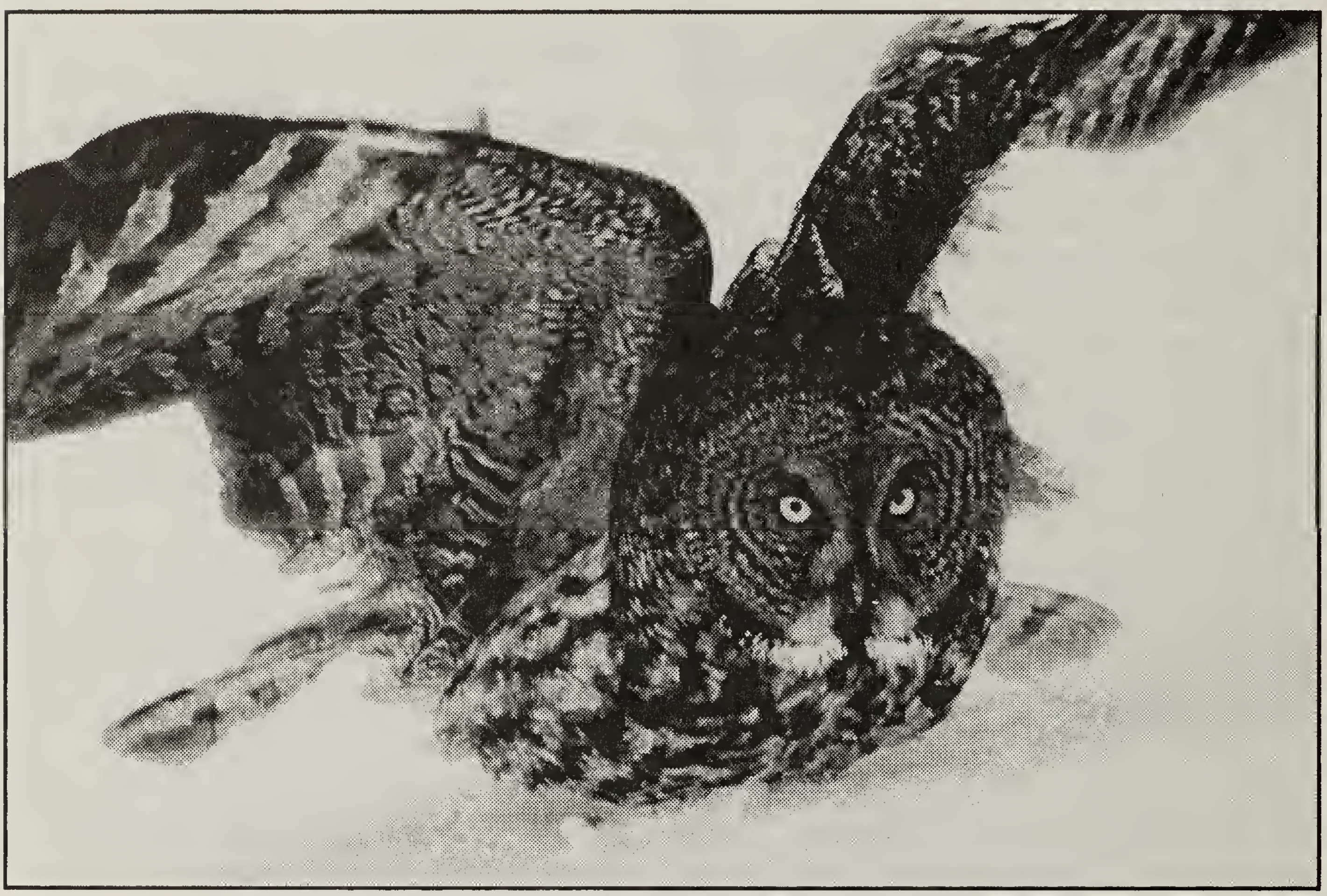
7. Hill, Geoffrey E. 1993. House Finch (*Carpodacus mexicanus).* In The Birds of North America , #46 (A. Poole & F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences; Washington, D.C.; The American Ornithologists Union.

8. Kreba, Robert 1990. Field Checklist of Saskatchewan Birds. Saskatchewan Natural History Society in cooperation with Saskatchewan Museum of Natural History & Canadian Wildlife Service.

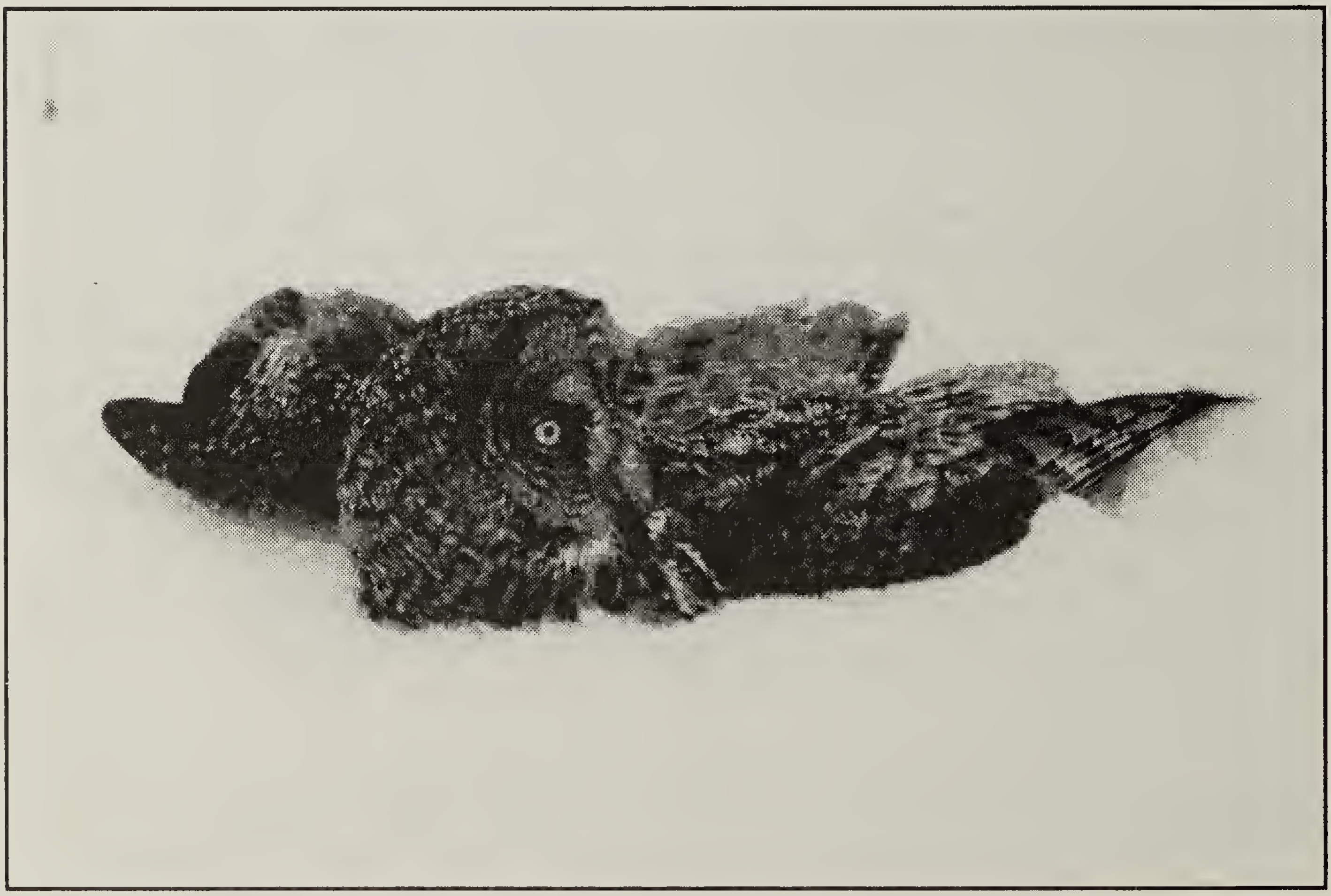
> “A flock of lice... A knot of toads... A murmuration of starlings... A tiding of magpies... A paddling of ducks... A spring of teal... A peep of chickens.”
>
> James Lipton, An Exaltation of Larks, 1991.

GREAT GRAY OWLS by Tim Garton

The owls in the snow were four different owls. I was fortunate enough to watch a getting prey. I took the photographs during the months of January, February a that I have ever seen was located between Powerview and Manigotogan, Manitob Highway 302.

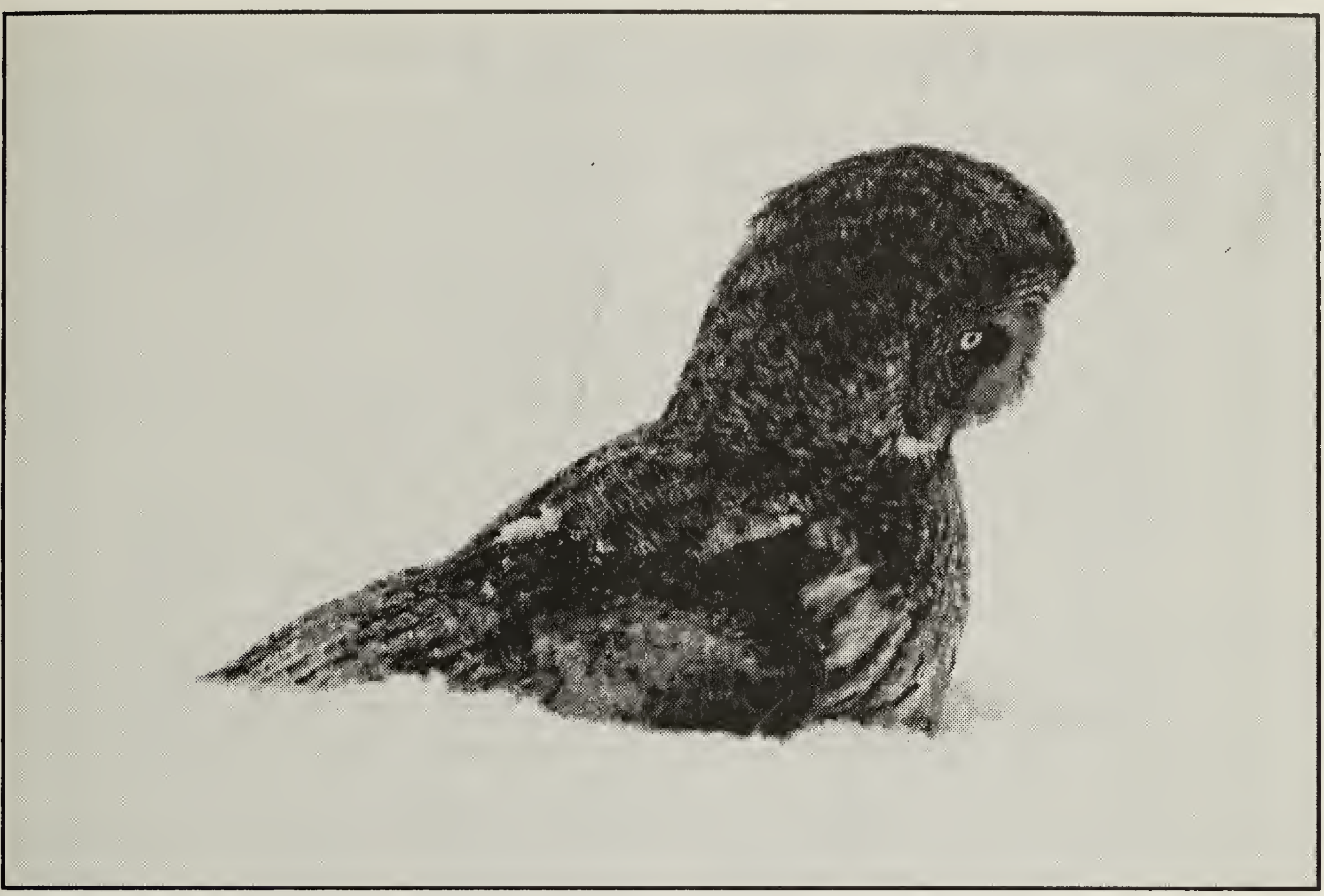


Landing on snow – the moment of impact

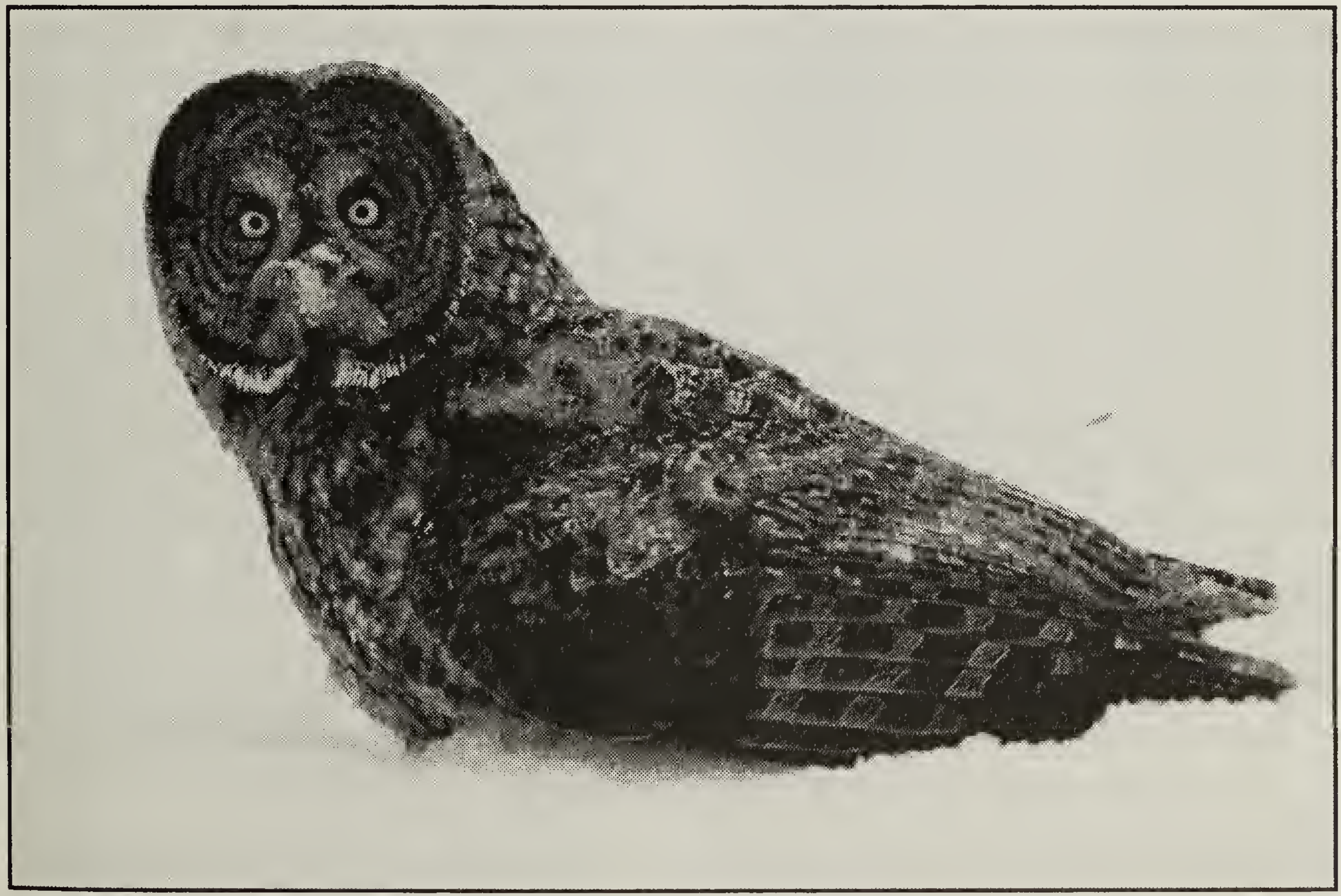


This owl landed on the snow, wings spread out, and flew away with a vole afterwards.

it for them to fly down from their perches and plunge into the snow in hopes of rch of 2001, 190 km northeast of Winnipeg. The heaviest concentration of owls January 20, 2001, I saw 44 owls from Highway 59 northeast to Manigotogan on



Listening and peering down into the snow



After putting its bill into the snow, this owl turned to face the camera.

BURDOCKS IN SASKATCHEWAN

VERNON L. HARMS, #212–115 Keevil Crescent, Saskatoon, SK S7N 4P2

Burdocks (*Arctium* spp.) are tall, coarse, biennial, exotic weeds, originally from Eurasia, that already by the mid-1600s had been unwittingly imported into North America by early English and French colonists.[1] These conspicuous plants, mostly exceeding a metre in height, tend to grow in various relatively moist, human-disturbed sites where they often form large dense patches.

Burdocks are members of the Thistle Tribe (Cynareae), of the Sunflower Family (Asteraceae), and like all composites have flowers borne in heads surrounded by bracts forming well-defined involucres. The leaves are large and more-or-less woolly underneath. As biennials, the first-season plants consist of a deep taproot bearing large, more-or-less triangular, basal leaves, mostly ¼ to ½ metre long. These leaves tend to remind one of Arrow-leaved Colt's-foot (*Petasites sagittatus* (Pursh) Gray), but they are more irregular in shape with many clustered from a taproot. The stout, tall, much-branched stems appear in the second year and bear alternately arranged leaves and numerous flower-heads. As all thistles and their relatives, but unlike many other composites such as asters, daisies and sunflowers, burdock heads lack rays. The tubular florets, with purple to pink (rarely white) corollas, are surrounded by numerous, overlapping, thickish involucral-bracts tapered upwards to sharp hooked tips (at least outer ones) that form large globe-shaped, spiny involucres around the heads (Figure 1). In late-flowering and fruit stages, the heads look like spiny burs, and are well adapted for effective seed-dispersal by attaching to animal fur and our clothes.

Four burdock species are known in North America, one of which, Lesser or Common Burdock (*Arctium minus*), is spread across the continent in temperate regions, having become most abundant in eastern North America, less frequent on the Great Plains, and relatively uncommon in drier parts of the southwestern and western United States. Historically, burdocks have not been considered particularly frequent in Saskatchewan. They do not, however, represent recent introductions into the province since a Regina collection of Lesser Burdock made by C.N. Willing dates back to 1908, a Maple Creek record to 1930, a Big River one to 1938, and six other scattered records to the 1940s and 1950s. While in the past they apparently were rather infrequent weeds in Saskatchewan, burdocks may now be increasing in frequency and numbers.

The distributional information in this article is based on numbers and locations of burdock collections deposited in the W.P. Fraser Herbarium in Saskatoon, the G.F. Ledingham Herbarium in Regina, and the Swift Current Agriculture Canada Research Centre. But how well herbarium collections reflect the actual distributions and abundance of the species is questionable. At best, they can only represent a rough sampling of the species.

Three burdock species are documented as occurring in Saskatchewan. These are: Lesser or Common Burdock

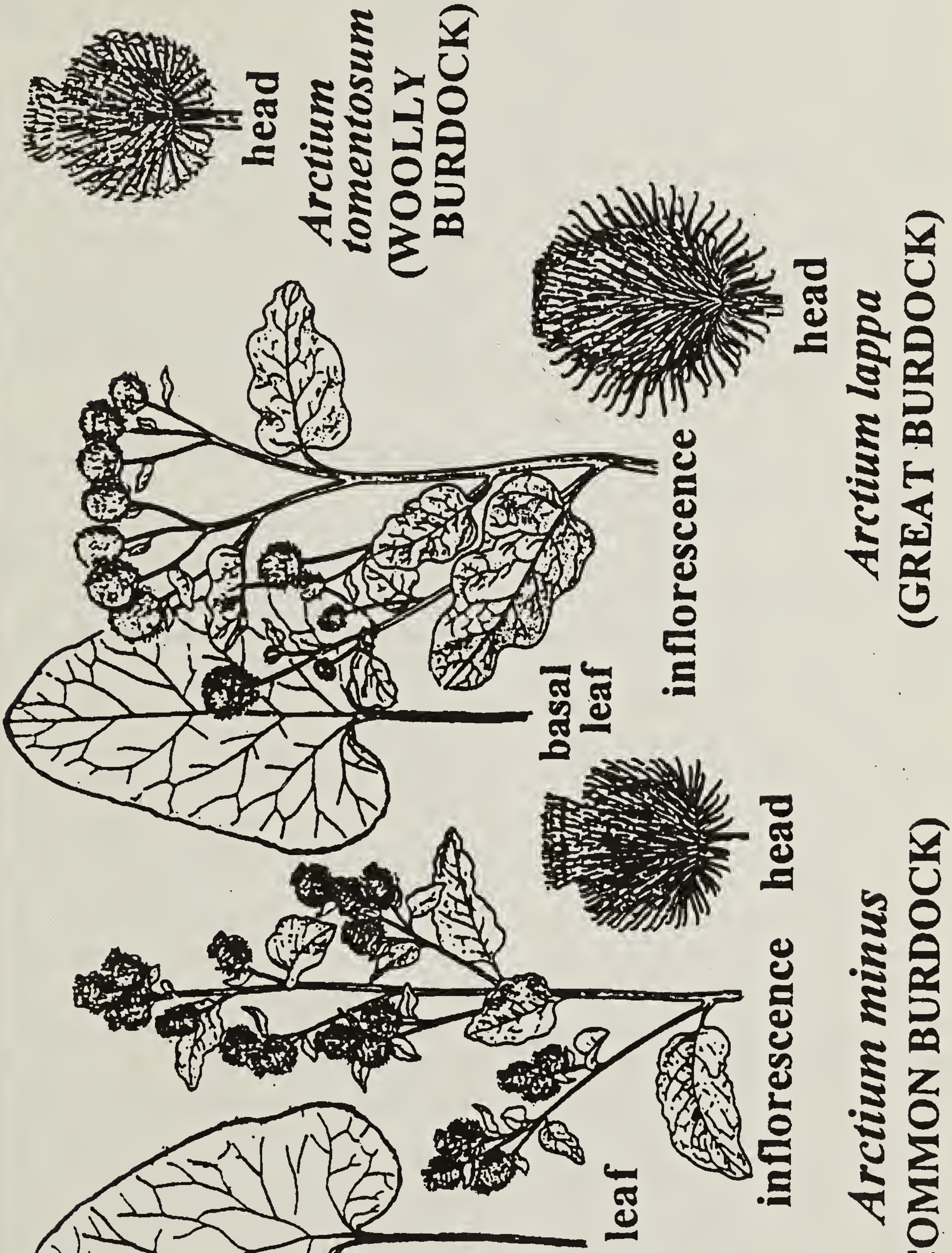


Figure 1. Morphology of Saskatchewan Burdock Species. Adapted from Moore & Frankton (1974)

(*Arctium minus* Bernh.), Woolly or Cotton Burdock (*Arctium tomentosum* P.Mill.), and Great Burdock (*Arctium lappa* L.). The fourth North American species, Woodland Burdock (*Arctium nemorosum* Lej. & Court., now referred to *A. vulgare* (Hill) Evans), has sometimes been listed for the province, but this appears erroneous, with Saskatchewan specimens once identified as this species now revised to *A. tomentosum*. All known Saskatchewan sites of burdocks are located in the agricultural region, south of latitude 53° (see Figure 2), except for a record of Lesser Burdock from Big River, and an unverified record of Great Burdock from north of Nipawin. The following key may be used to distinguish our Saskatchewan burdock species:

Identification Key to *Arctium* (Burdock) Species in Saskatchewan

1a. Heads (1.5-) 2-2.5 cm broad, racemose or racemosely clustered, with at least the middle and upper ones sessile or short-stalked; larger leaf-blades tapering at apex to usually ± broadly acute tips; leaf-stalks hollow and only slightly angled; corolla limbs not glandular; involucres strongly contracted at top, the middle and inner involucral bracts successively larger, the inner ones shorter than corollas; plants to 1.5 m tall. - - - - - - - - - - - - ***A. minus.***

1b. Heads ± corymbosely arranged with at least the lower on long stalks; larger leaf-blades rounded at apex; leaf-stalks strongly angled, either solid or hollow; corolla limbs glandular or not; involucres more cup-like, less contracted at top. - **(to 2).**

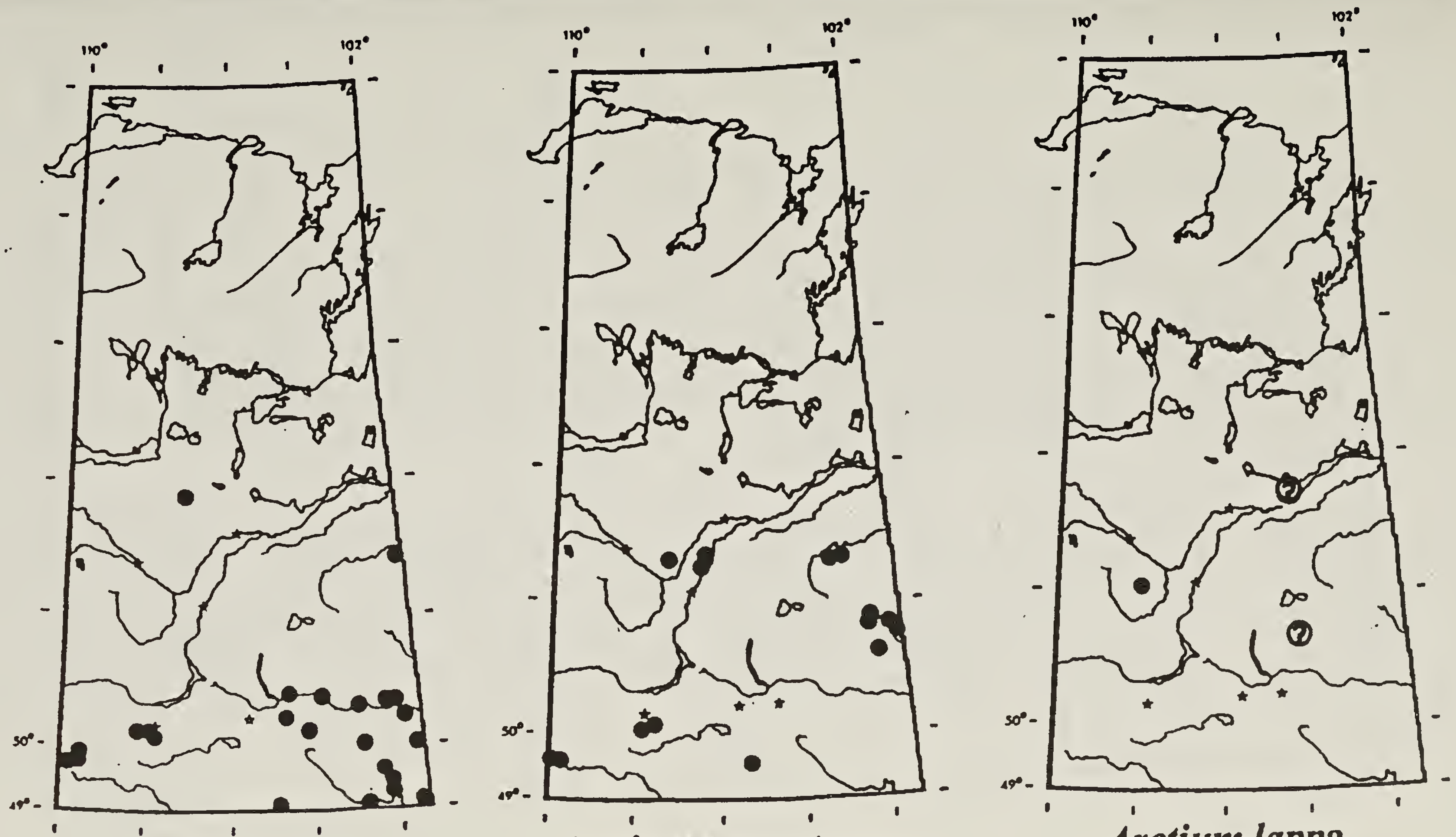
2a. Involucres distinctly arachnoid-tomentose (spiderwebby to cottony); corolla limbs glandular and abruptly dilated; petioles hollow; heads 2.0-2.5 (-3) cm broad; middle and inner involucral bracts successively larger, the inner ones longer than, subequal to, or mostly shorter than the corollas; plants to 1.5 m tall. - - - - - - ***A. tomentosum.***

2b. Involucres smooth, not hairy; corolla-tips not glandular; petioles solid; heads 3.0-4.5 cm wide; middle and inner involucral bracts nearly equal and surpassing corollas; plants often larger, to 3 m tall. - - - - - - - - - - - - - - - ***A. lappa.***

The Woodland Burdock would differ from the above three species in having racemosely arranged heads, and leaf-shape and leaf-stalks like *A. minus*, usually ± arachnoid involucres like *A. tomentosum*, larger heads and inner involucral bracts exceeding corollas like *A. lappa*, and non-glandular corollas unlike *A. tomentosum.*

Lesser or Common Burdock, *Arctium minus*

Based on records in provincial herbaria, Lesser Burdock is the most common burdock species in Saskatchewan, as in North America. The herbarium survey revealed a total of 39 collections of this species, from apparently 28 different sites and 24 general localities in the province. While records are scattered from the southern border, north to Big River and Armit (east of Hudson Bay near the Manitoba border), this species appears most frequently encountered in the more southern regions of the province south of latitude 51° N. (Figure 2). The earliest collections of Lesser Burdock in Saskatchewan are from Regina (1908), Maple Creek (1930, 1936), Big River (1938), Carlyle (1941), Armit (1948), Stockholm (1948), and Hidden Valley (on Qu'Appelle River north of Regina) (1949). Additional collection records are spread over the remaining decades of the 20th century (Figure 3). The most frequently listed habitats for Lesser Burdock in Saskatchewan were disturbed understories of stream-edge woods, roadside ditches, field edges and waste areas. Other habitats listed included open stream and slough edges,



Arctium minus
(COMMON BURDOCK)

Arctium tomentosum
(WOOLLY BURDOCK)

Arctium lappa
(GREAT BURDOCK)

Figure 2. Saskatchewan Distribution of Burdock Species

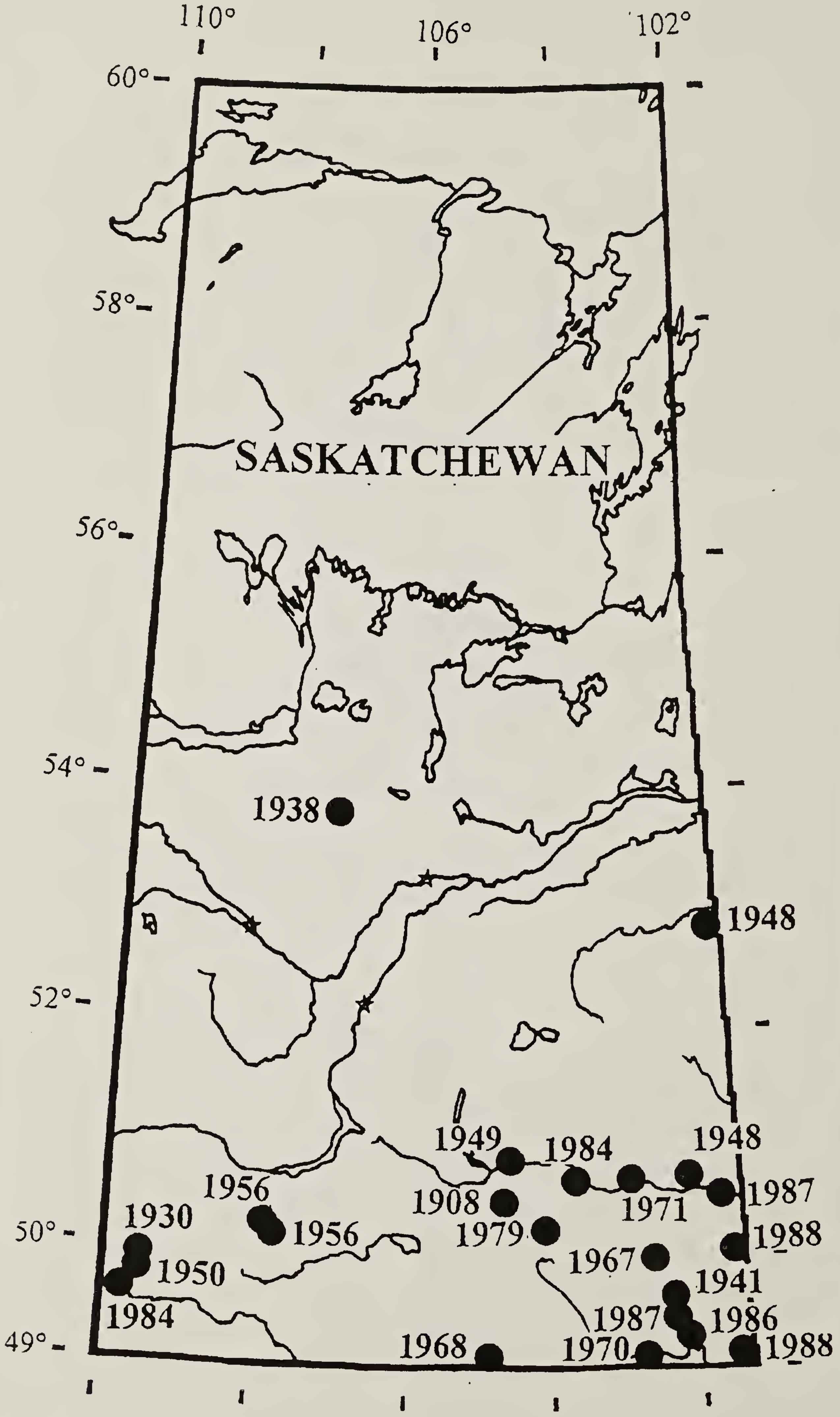


Figure 3. Historical Collections of Lesser Burdock in Saskatchewan. The earliest collection date is given for each general locality.

farmyards, corrals, and garden margins. Unfortunately most specimen labels gave no indication of local abundance, but of about a dozen that did, two-thirds stated that the plants were common or locally frequent and one-third said they were few, several or uncommon. With regard to the flowering and fruiting phenology of Lesser Burdock, early anthesis (i.e. flower bud and young flower) stages were seen on collections from late June to late July. Full anthesis (i.e. mature flowers) stages could be seen on late July to mid-October collections. Except for one mid-October collection, fruits were only seen on previous-year's dried stalks of several spring – early summer collections with current-year's leaves. Such specimens raise a question – are these burdocks strictly biennial or possibly somewhat perennial at this latitude? Actual connections of the old fruiting stalks to the roots bearing new leaves could not be ascertained from the herbarium specimens seen.

Woolly or Cotton Burdock, *A. tomentosum*

The second most frequently encountered burdock species in Saskatchewan is Woolly Burdock, with a total of 19 collections, from apparently 17 different sites and 15 general localities in the province. While records are scattered over the southern third of the province, this appears to be the most frequently encountered burdock species north of latitude 51° N. (Figure 2). The oldest records of Cotton Burdock in Saskatchewan are from Rosthern (1936), southwest of Swift Current (1956), and Kamsack (1959). All other collections are dated in the 1980's and 1990's. The most frequent habitats listed for Saskatchewan collections of Woolly Burdock were roadside ditches, disturbed wooded stream margins, field edges and waste areas. Other habitats listed included sloughs and garden edges. While nearly two-thirds of the specimen labels gave no indication of local abundance, of those that did, half stated the plants to be common or occurring in large patches, while the other half indicated the plants to be locally uncommon or only occasional. Early anthesis stages were seen on specimens collected from early July to early August, and full anthesis on those from mid-July to early October.

Great Burdock, *A. lappa*

Great Burdock is the rarest species of burdock in Saskatchewan, with only one confirmed record in the province and two unconfirmed ones. A verified 1981 collection was from a "field-edge wasteland" near Biggar. An unverified 1974 collection is reported from 5 km east of Touchwood, and an unconfirmed 1975 record exists from Garrick (about 27 km NW of Nipawin). These two are indicated by circled question marks on the right hand map in Figure 2. The single verified collection of Great Burdock in Saskatchewan was in flowering stage in mid-August.

Discussion

The quite late summer flowering periods and apparently late fruit production, occurring well after our first frosts, seem interesting phenological features of burdocks in Saskatchewan. Could autumn frosts possibly hamper fruit development and represent a limiting factor preventing burdocks from becoming more abundant here?

A review of herbarium collections gives us a glimpse of the localities and dates of burdocks in Saskatchewan, and provides some historical perspective on their occurrences. It is conjectural to what extent the numbers, dates and locations of herbarium collections can be relied upon to accurately reflect the historical invasion and spread of these exotic weeds. Herbarium specimens document that these exotic weeds have been in this province for almost a century and suggest that their frequency has increased over time. But the historical information inferred from herbarium labels might be distorted by the uneven activity of collectors. While in the last 70+ years, numerous Saskatchewan collectors have contributed burdock specimens to the provincial herbaria, it is noteworthy that more than half of the collections were made by four individuals, namely, Archibald Budd (with associates, especially in the Swift Current area and during the 1950's), Bernard deVries (primarily in the Qu'Appelle Valley and Duck Mountain areas, during the 1970's and 1980's), Donald Hooper (in east-central Saskatchewan, during the 1980's), and the present author (mainly in southeastern Saskatchewan along the Souris and Antler Rivers, during the 1980's). The collections of a relatively few botanists, active regionally during particular time-periods, might distort inferences made from herbarium collection dates. An absence of plants cannot be assumed prior to when they are first looked for in any region, but neither can their presence be confirmed.

Several people that I talked to when preparing this article indicated their belief that burdocks are increasing in frequency and numbers in Saskatchewan. To quote one professional ecologist, Mike Schellenberg, at the Swift Current Agriculture Canada Research Centre, "I believe that the occurrence of this group has increased in the last few years. In my travels, I have noted it to be quite common in the Missouri Coteau region. I have also had a number of producers request research be done to find means of control, which suggests a higher incidence" (pers. comm., Feb. 2001)

An objective of this article has been to present background information about the presently known taxonomy and occurrences of burdocks in Saskatchewan, to encourage additional reports and specimens from readers so that our knowledge can be updated. Quite likely burdocks occur at considerably more sites than shown by the mapped herbarium records in Figure 2. While burdock plants appear too conspicuous to be easily overlooked, their very size, coarseness and unattractiveness may deter many naturalists and students from collecting them. Can you help fill gaps on the species' maps? Please contact me at the above address, telephone (306) 373-0097, fax (306) 966-5015, or e-mail: <vlharms@sk.sympatico.ca>. Any information on additional sites or population numbers would be greatly appreciated. Even more useful would be pressed specimens showing whole inflorescences, heads and larger leaves, with information on locality, habitat, date of collection and local population size.

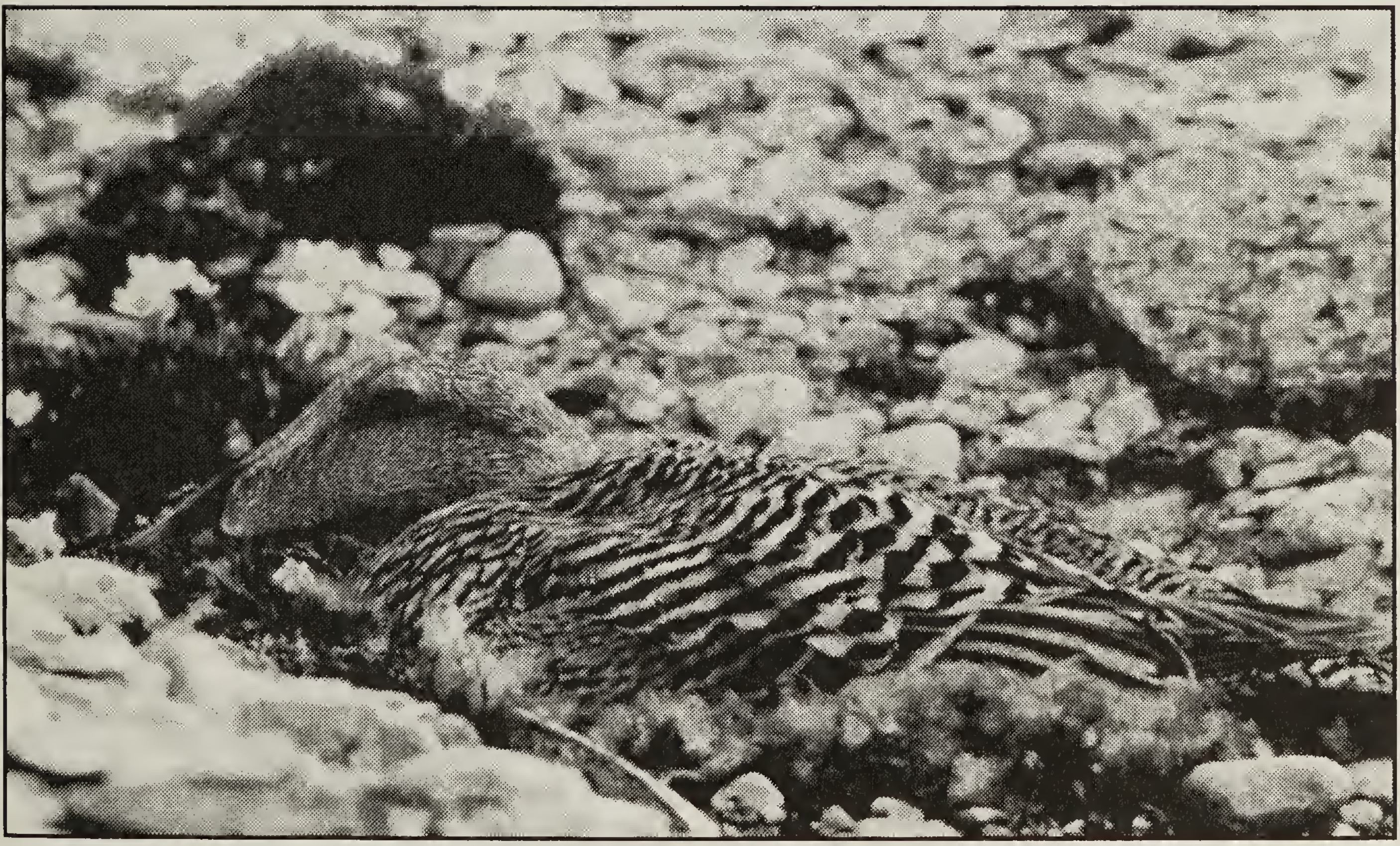
Acknowledgments

Recognition is due Anna Leighton for asking the probing questions that inspired this article. Acknowledgment is given to all collectors of *Arctium* specimens. Thanks are expressed to George Ledingham, Herbarium Curator at the University of Regina, for the opportunity to verify and study his herbarium specimens. Gratitude is also expressed to Mike Schellenberg, Plant Ecologist at the Swift Current Agriculture Canada Research Centre, for information on the burdock collections there and his valuable field observations.

1. Moore, R.J., and C. Frankton. 1974. "*Arctium* Burdock; Bardane", in The Thistles of Canada. Research Branch, Canada Department of Agriculture, Monograph # 10. Ottawa, Ontario, pp. 12-18.

Large dog sitting beneath last-year's burdock stalk near Saskatoon. The burs bother dog owners because they have to be cut out of the fur; if pulled they are liable to break apart into many pieces attached by hooks.

* * *



Common Eider on nest, Victoria Island, Canada ***Wayne Renaud***

NOTES AND LETTERS

A FOOL-PROOF METHOD OF PREVENTING WINDOW COLLISIONS

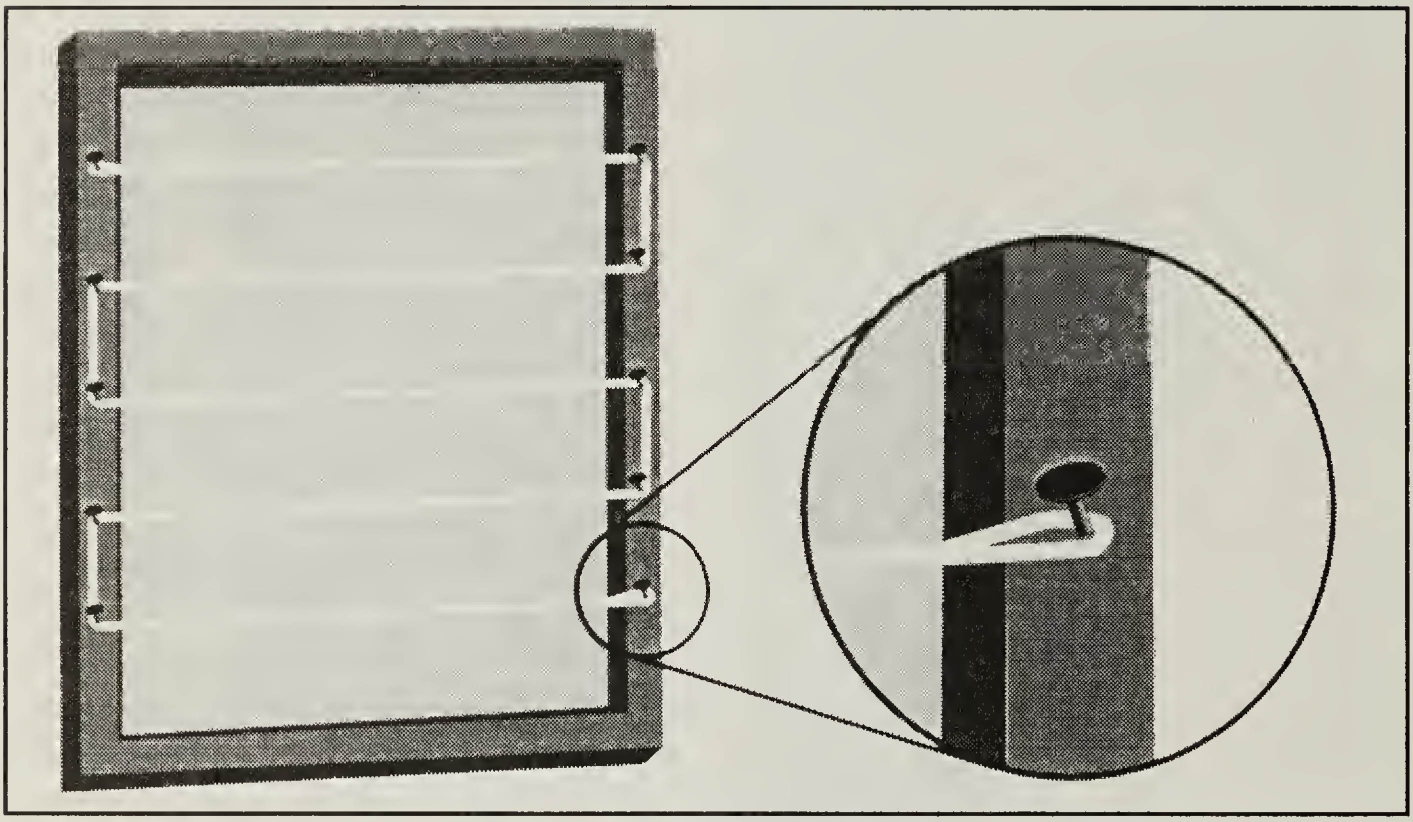


Figure 1. Position of nails and string on the outside of a window

Bird mortality as a result of collisions with windows is commonly experienced in urban settings but is surprisingly under-represented in bird literature. The species most vulnerable appear to be those of forest habitats, accustomed to flitting through available openings among trees. Common examples are juncos, chickadees, thrushes, and flickers. Ruffed Grouse collisions, although they have been reported, are uncommon.[1]

Shortly after our family moved into a country home near Grandora, SK, we removed some internal walls, creating a single living space with large windows on both the east and west walls. During spring and fall migrations, bird window collisions were frequent and resulted in several deaths. Having observed that falcon silhouettes are not very effective in preventing collisions, we tried the following method which, after more than 5 years, has proven 100 percent successful. I recommend this method to all readers. The instructions follow.

Position 3/4 inch nails at 6 inch intervals along opposite sides of the outside of the window frame (Fig. 1). Take care to place the nails opposite each other at the same level. Knot a permanent loop in a piece of braided nylon cord (approximately 1/16 inch diameter) long enough to cover the window, and place the loop over one of the lowest pair of nails. Stretch the cord horizontally to the opposite nail, then up and over the nail above it, and in this fashion, weave back and forth across the paired nails until the last one is reached. Cut the cord approximately 1.5 inches beyond the last nail and knot a loop in this end as well, making it sufficiently short of the nail that the cord must be stretched to place the loop over the nail. It is important to use braided nylon as opposed to cotton or other material; the braided nylon stretches and maintains its tension in diverse weather conditions.

This method is effective because the visibility of the string by birds is not affected by light angle. Window glass reflects light coming in at an angle and thus mirrors the trees and sky so effectively that birds are unaware of a physical barrier. The stretched cord is sufficient to break up the mirror image and trigger avoidance.

We found that the stretched cord in no way hindered our own viewing enjoyment. Within a short time after installation we became oblivious to the cord. Window washing is no problem either; you simply remove the cord, wash the window and replace the cord again.

1. Friesen, V. C. 1995. A different drummer. *Blue Jay* 53(4):229-231.

- *Peter Jonker,* Box 232, Grandora SK S0K 1V0. email : peter.jonker@usask.ca

IDENTITY OF A SWALLOW RECOVERED IN BOLIVIA: A CORRECTION

Trevor Herriot's chapter, "Callin's Terrain," in his superb new book, *River in a Dry Land*, correctly tells of the Bank Swallow that went from the Qu'Appelle River to Bolivia. This reminded me of the sleuthing Callin and I did concerning the identity of this swallow.[1] Herriot is, however, less accurate in his claim that, without Callin, "this remarkable record would have been lost ... tucked away in the files of the United States Fish and Wildlife Service."[3]

Richard H. Carter, Jr. farmed most of his life immediately above the Qu'Appelle valley, two miles north of Muscow siding, west of Fort Qu'Appelle. One of Saskatchewan's three earliest bird banders, he banded 5240 individuals of 71 species between 1923 and 1961. His banding included 192 Barn Swallows and 68 Bank Swallows, as well as an astonishing 1470 House Wrens and 816 Slate-colored Juncos. (These numbers have been updated since Houston 1945[4]).

On 7 July 1929, as shown unequivocally by his original banding records, Carter visited a Bank Swallow colony in a bank not far from Sioux Bridge where Highway 210 now crosses the Qu'Appelle River west of Fort Qu'Appelle, between Pasqua and Echo lakes. That day, Carter banded 3 adults and 31 nestling Bank Swallows, using band numbers C3345 to C3378. Six years later in June 1935, Bank Swallow C3371 was found dead at El Carmen, Rio Madre de Dios, in northwestern Bolivia. In the intervening years the swallow presumably had made the southeasterly trip of 7765 km, back and forth 11 times, from Saskatchewan at 50° 40' North, 103° 50' West, south through Central America and on beyond the equator to 11° South, 67° West. Eleven such trips would give a minimum travel distance of 85,400 km – not bad for a bird that weighs 13 or 14 g.

Unfortunately, an error in data entry resulted in the recovery being registered as that of AOU code #613, Barn Swallow, rather than as AOU #616, Bank Swallow. This record was not lost in the voluminous banding files. Instead this unique and interesting recovery was cited, but incorrectly, as a Barn Swallow, by Frederick C. Lincoln in his 1939 book, *The Migration of American Birds*,[6] and as a Barn Swallow by Allan and Helen

Cruickshank in their 1958 book, *1001 Questions answered about birds.*[2]

Richard and his brother, J. R. Carter, also had exceptional results from banding Red-tailed Hawks. Most years they banded the nestling Redtails in the one nest on each of their farms, probably in a river coulee. From 51 Red-tailed Hawk bandings there were a phenomenal 22 recoveries (43%, or 14 times the current rate of recovery from this species). This was a time when the public perceived that "the only good hawk is a dead hawk," and at least 18 had been shot. These 22 birds showed where Saskatchewan Redtails migrated and wintered. For this reason, when I began banding in 1943, I directed my raptor banding efforts largely to other species where little was known. The Carters had already provided the answers for the Red-tailed Hawk.[5]

1. Callin, E.M. 1980. Birds of the Qu'Appelle, 1857-1979. Special Publication No. 13. Saskatchewan Natural History Society, Regina.

2. Cruickshank, A., and H. Cruickshank. 1958. 1001 Questions Answered About Birds. Dodd Mead., New York

3. Herriot, T. 2000. River in a Dry Land. Stoddart, Toronto

4. Houston, C.S. 1945. Saskatchewan bird banders. No. 4. R.H. Carter, Jr. *Blue Jay* 3:37.

5. Houston, C.S. 1967. Recoveries of Red-tailed Hawks banded in Saskatchewan. *Blue Jay* 25:109-111.

6. Lincoln, F.C. 1939. The Migration of North American Birds. Doubleday Doran, New York

- *C. Stuart Houston*, 863 University Drive, Saskatoon, SK S7N 0J8

HOUSE-DWELLING RED-WINGED BLACKBIRDS

In the spring of 1999, and also 2000, a pair of Wood Ducks attempted to nest on our farm near Kyle. I erected three new duck houses, hoping that they would choose one.

On June 21, 2000, I checked these three houses and found a pair of Rock Doves in one, four young kestrels in the second and on approaching the third, was buzzed by a pair of Red-winged Blackbirds. As I set up the ladder, a fledgling Red-winged Blackbird flew out into a nearby tree and, on peering inside, I saw a second juvenile lying in a well-made nest inside the house.

- *Sig Jordheim*, Box 544, Kyle SK S0L 1T0

REDPOLLS IN 1999-2000

In the September 2000 issue of the Blue Jay, we read with interest about the Redpoll invasion and the banding of these birds. ...We first saw six Redpolls on our niger seed feeders on December 7, 1999; the numbers rose to flocks of more than 50 during January 2000, dwindled to 10 on March 21, 2000 and the last individual was seen on April 5. On three occasions, 28 February, 5 March and 6 March, we saw an individual banded on the right leg in flocks of redpolls (flocks of 20, 25 and 10 respectively).

- *Trish and Dick Santo*, 144 Delaronde Road, Saskatoon, SK S7J 3Y4

BIRDS THAT GLOW IN THE DARK

Each summer, we are privileged to have Barn Swallows nesting under the

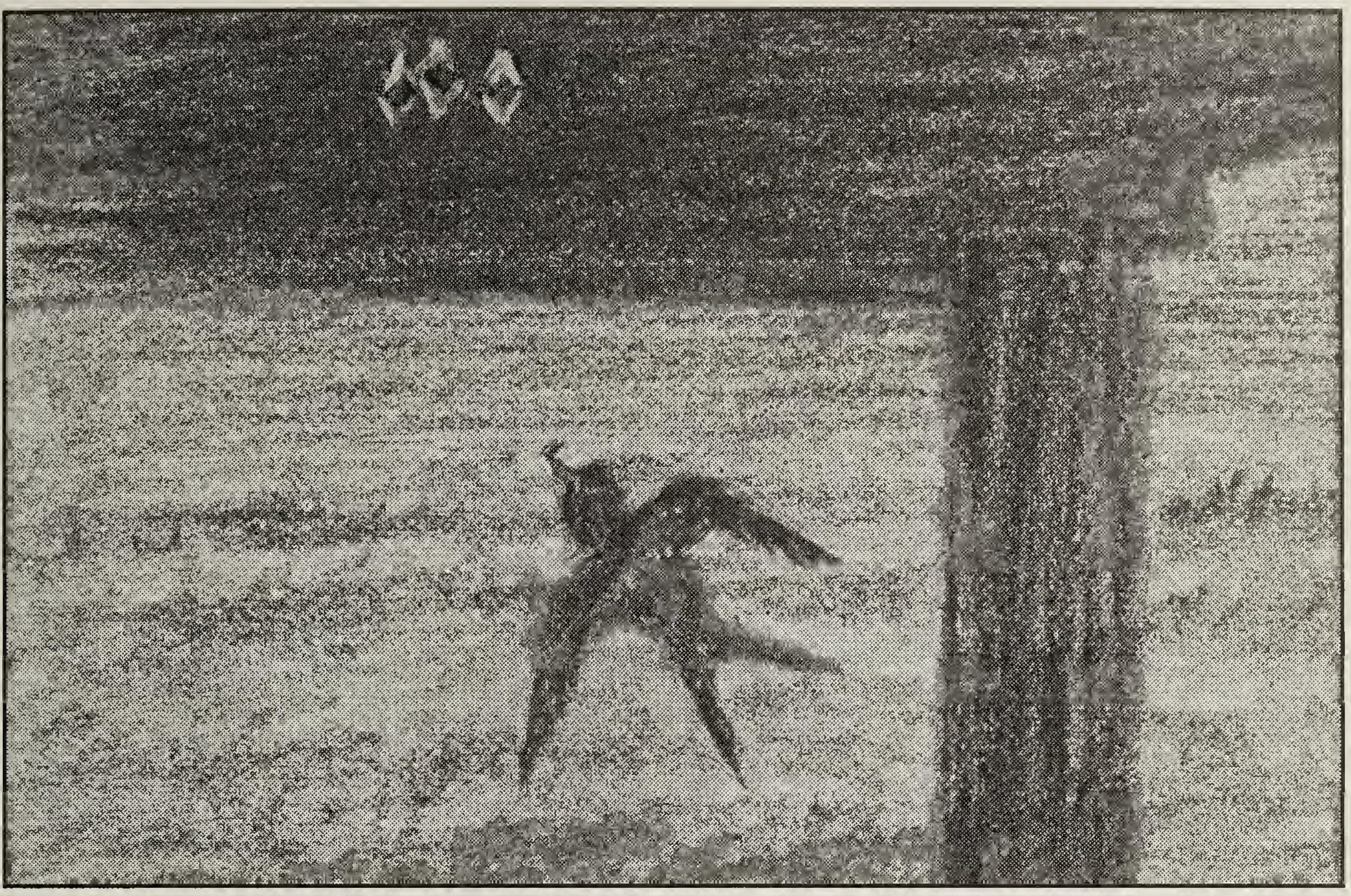


Figure 1. Drawing to show the appearance luminous edges of the beaks of young Barn Swallows

roof of our front "deck" at our house in Silton, SK. The nest referred to in this article was behind one of the roof beams, a location that is very dark at night. A brood is raised in this nest each summer. When we go out our front door, we pass under the nest and the parents chitter and fly at us, or they sit on a nearby fence until we go away.

The fall of the year 2000 was special. A brood had been started in the nest when fall was already upon us. We thought that there would not be enough time for the nestlings to gain the strength and flying skill to migrate. The parent birds seemed to realize this. In order to feed the young in the short time they had, they ignored our presence as we went past their nest and actively fed the young birds well into the darkness of late evening.

One night, I looked out a window in a darkened hallway and in the pitch darkness of the nesting area there were three luminescent, blue, diamond shapes. The edges of the beaks of the young birds were glowing! The parents were able to fly unerringly to feed them (Fig. 1). How the parents caught insects by only starlight and sky glow is something else to wonder about.

The young birds were soon ready to learn to fly and the parents were just as anxious as when the young were in the nest. Again they ignored us as we passed by and what seemed to be the flying lessons went on and on as the young birds strengthened their muscles.

One day, as happens here each fall, dozens of swallows were perched on the phone and power lines in our village. It seemed that swallows stopped here for two days to pick up the birds from Silton. Then the next day, they were all gone, including the young we had watched so anxiously. Their ability to join the migration was a tribute to the devotion of their parents and it was assisted by those glowing beaks.

This is the first time that I have seen the luminescence of the edges of bird beaks. Is this a well known phenomenon?

- *Leonard H. Greenberg*, P.O. Box 81, Silton, SK, S0G 4L0

REMOVAL OF NEST BOX MATERIAL

(Excerpted from a letter to Bob Nero, 11 November 2000)

The behavior pattern you describe [in *Removal of Nest Material from a Nest Box by White-breasted Nuthatches*, Blue Jay 58 (3), September 2000] is well known among European secondary cavity nesters. Practically all of them (tits, nuthatches, flycatchers, starlings) can, and do, remove some debris from their cavities before bringing new nest material to them. Often they try different cavities, intensively work for a day or two on one, then move to another one. This seems to constitute a normal component of their cavity selection process. This behavior, though, is limited to a short pre-breeding period in the early spring. Though it is widespread, it is not equally well reported....my statement of ignorance of causes of nest material disappearances [cited in the above article] did not pertain to those situations, but rather to cases in which old material disappeared, traceless, before the onset of spring. If you or your colleagues would have some observations showing that such cavity cleaning could take place also in autumn or winter, I would be very interested in hearing about them.

- *Tomasz Wesolowski,* Dept. of Avian Ecology, Wroclaw University, Wroclaw, Poland

TAME MOOSE AND ARBOREAL WOODCHUCK

In the early summer of 1999, a bison rancher near Hazel Dell in east-central Saskatchewan received an interesting surprise when he went to check his herd. It had been increased by one - a young moose. The animal was feeding among the bison as well as using their watering bowl and salt block (Fig. 1). It paid little attention to the owner of the herd. Around Christmas, it was joined by another young moose.

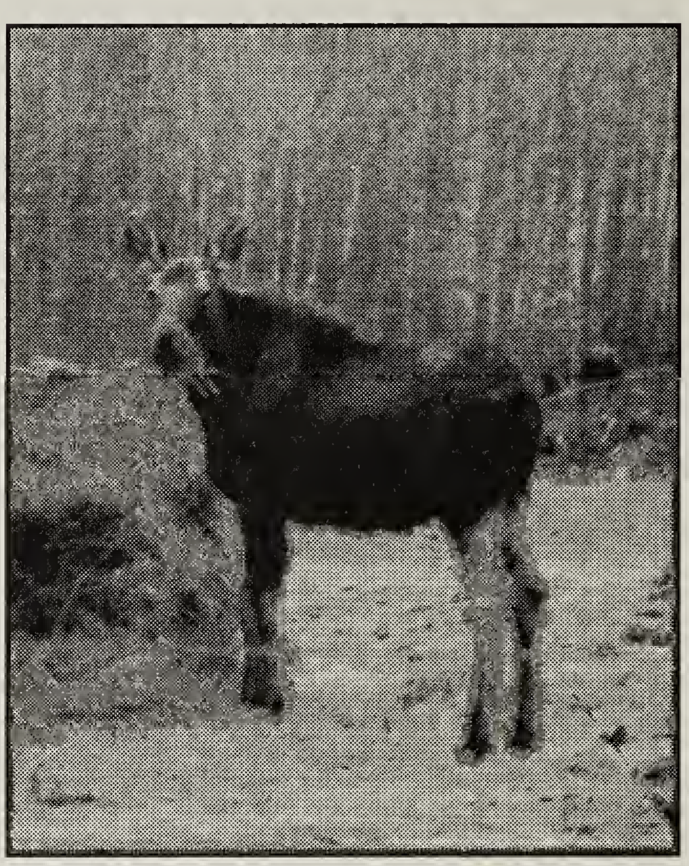


Figure 1. Moose inside the pasture fence, May 2000

Shirley Johnston

Some people thought that the moose should be released, but the general consensus was that "They climbed in; they can climb out." This proved to be true because sometime in late summer 2000 they were gone. With the coming of the hunting season, they may have been sorry they didn't stay where they were.

In early June 2000, while on a nature outing north of Preeceville, Saskatchewan, my wife Shirley, Dallas Fairburn and I saw a young woodchuck

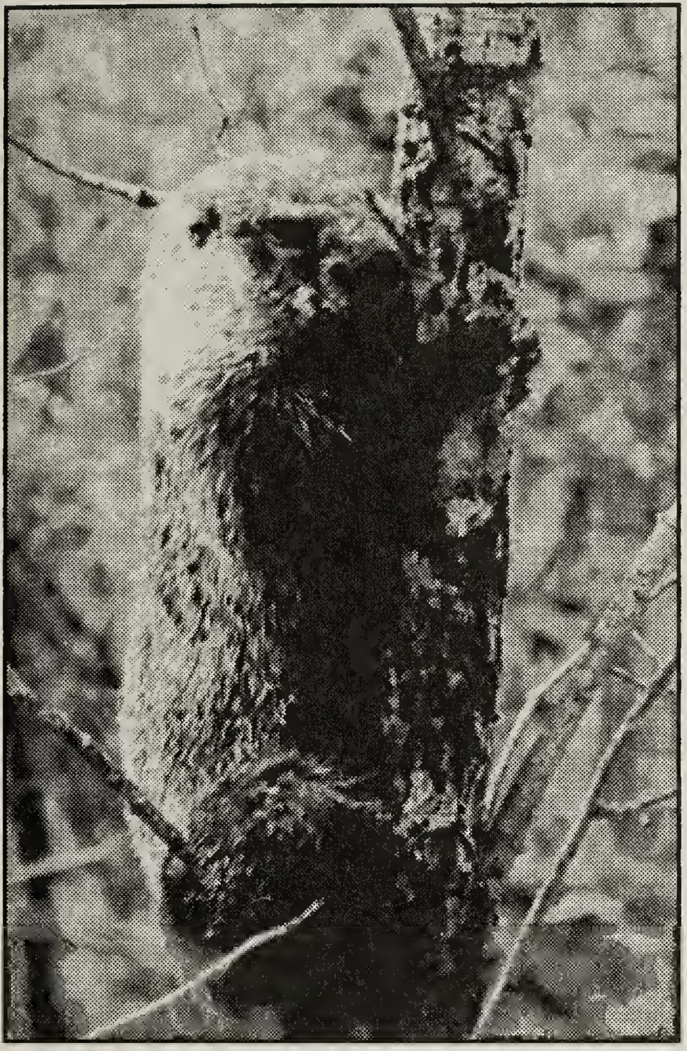


Figure 2. Woodchuck in a poplar tree, June 2000

Shirley Johnston

at the side of the road. And this one, contrary to what they usually do, scampered across a ditch and climbed about four feet up a small poplar tree. He stayed long enough for photographs (Fig. 2) and then climbed down and hid under some dead logs. Although we live in an area where woodchucks are not uncommon, we had never seen one climb a tree, nor has anyone else we have talked to.

- *Don Johnston*, Box 235, Lintlaw, SK

SNAKE ON A WIRE

At about 9:00 am on the sunny morning of July 23, 2000, I spotted a fairly large garter snake crawling along the lowest wire of the southern fence line of our Saskatchewan farm yard. I quickly went to get my camera and took several photos (Fig. 1 and 2). The snake, which remained relatively stationary, was about 22 to 24 inches in length. There were several other snakes in the vicinity. The snake remained on the wire for about 45 minutes. It disengaged itself rather quickly while I was doing something else and I didn't have a chance to record its descent.

Our yard site is at the extreme southeast corner of S.E.1/4 22-23-9-W2 (near Goodeve, SK). It is bordered

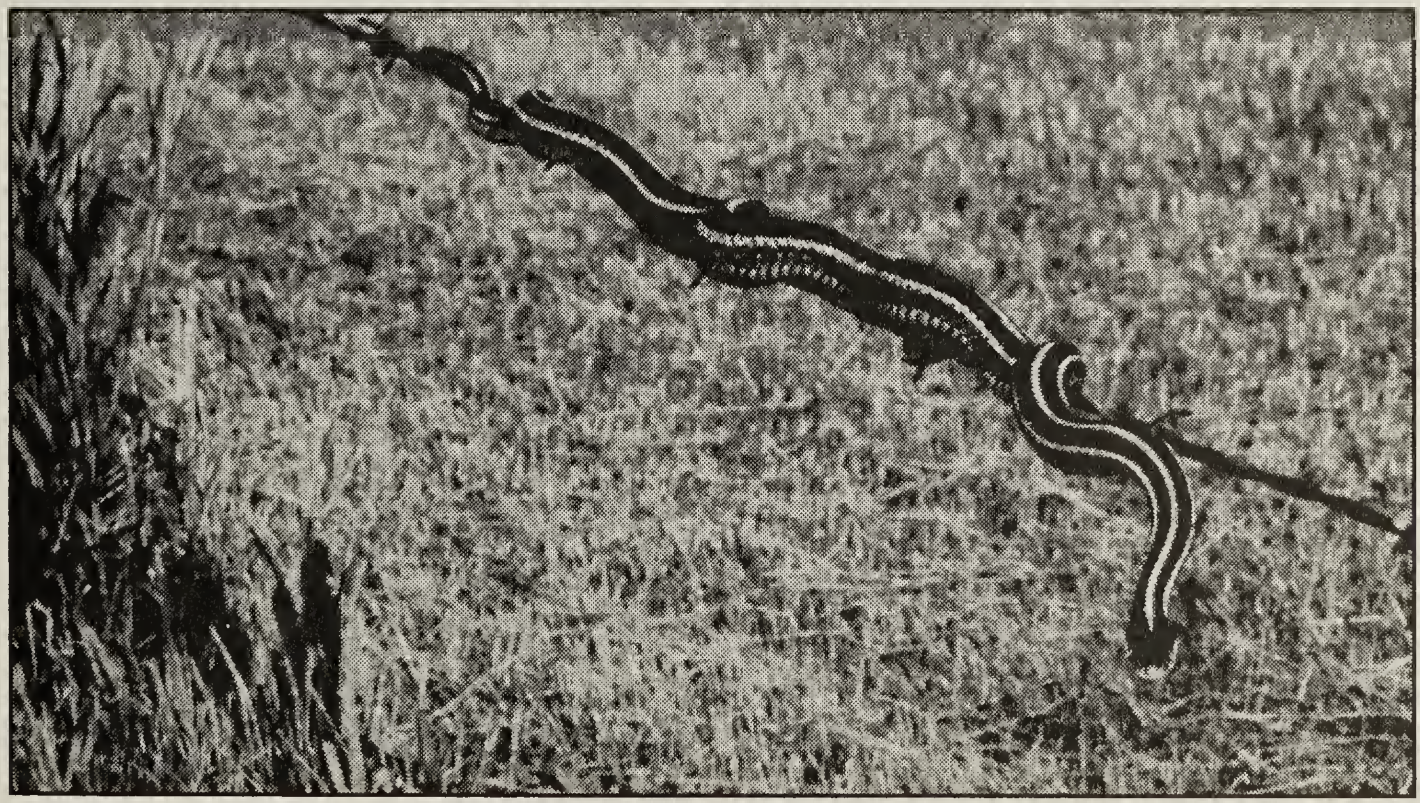


Figure 1. Garter snake on fence wire ***Lorne Cherneski***

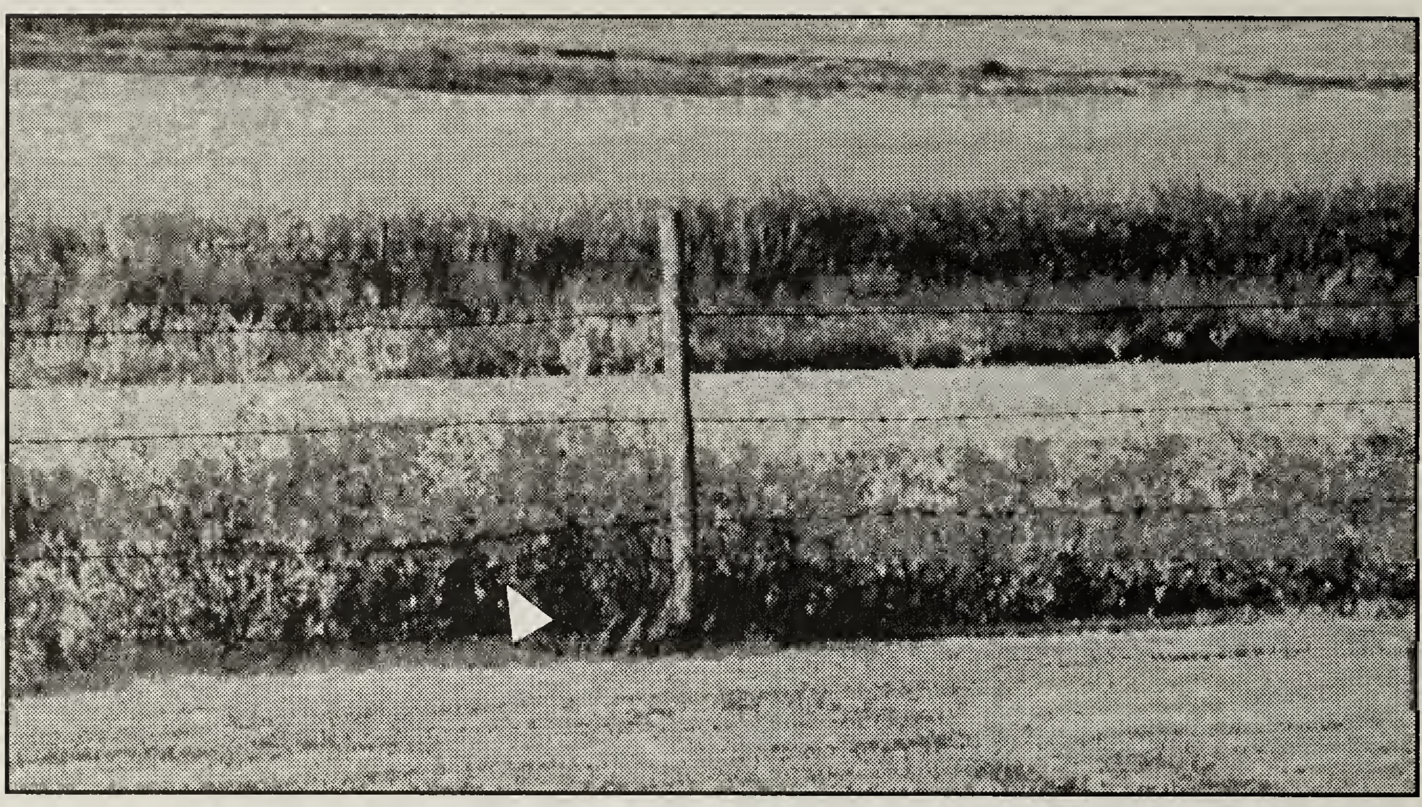


Figure 2. Fence with garter snake barely visible in centre of the picture on the bottom wire

Lorne Cherneski

on the south side by a farm access road (running east-west) and on the east side by a grid road (#617, running north-south). The fence line in question is atop a fairly high embankment, which has been the home for garter snakes for a number of years.

Each year, the snakes at this embankment occupy vacant Richardson's Ground Squirrel and Pocket Gopher burrows. We see garter snakes at this location frequently during the summer. On one occasion last July, I counted seven sunning themselves. They were of all sizes: some very small, some medium-sized and some adult. Each year, we find discarded snake skins in the area, some in "mint" condition.

- *Lorne Cherneski*, P.O. Box 1246,
Swan River, MB, R0L 1Z0

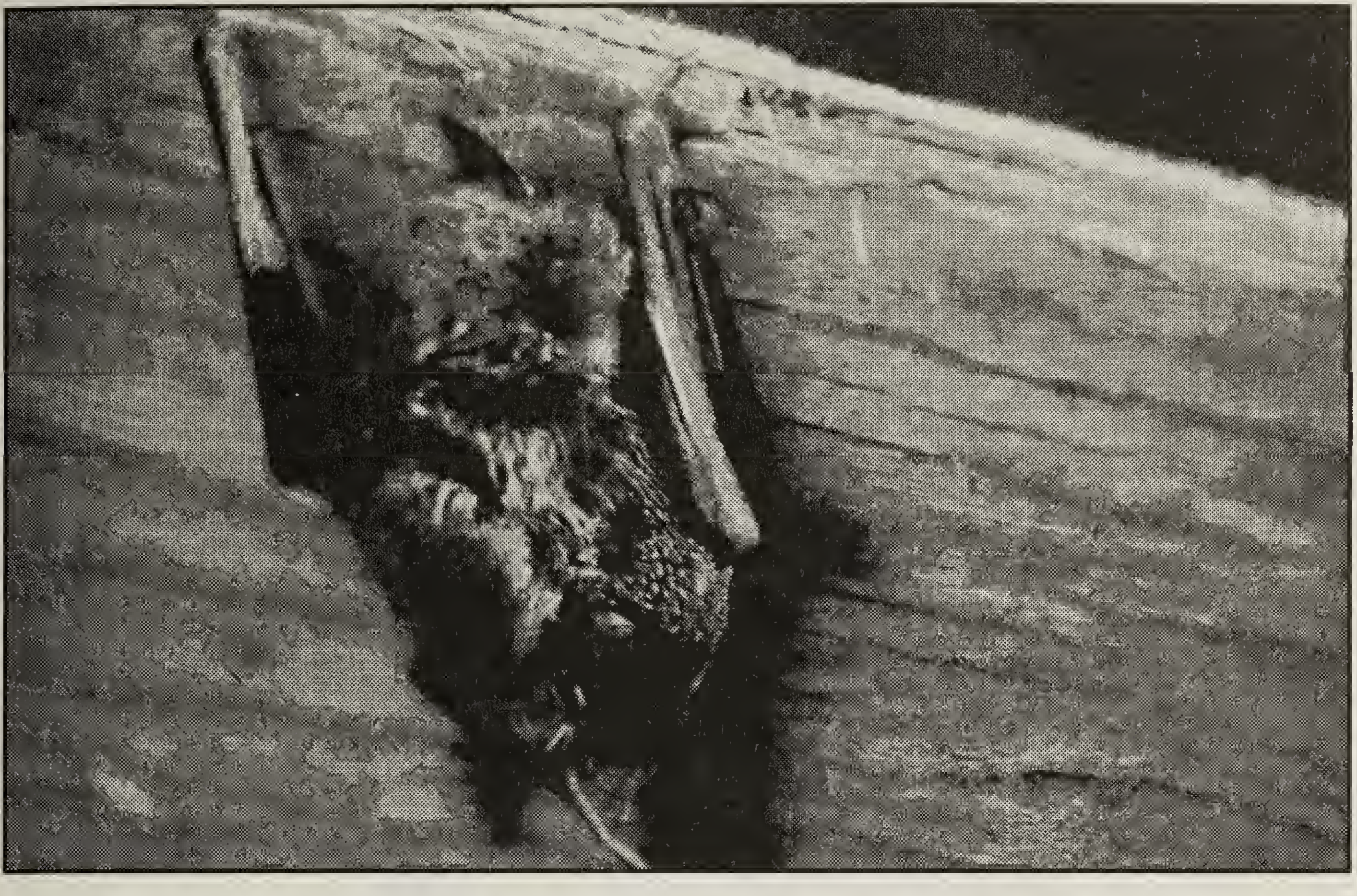
[Editor's note: Not only is it odd for this Plains Garter Snake to put itself in this position, but it is unusual for a snake to bask in such an exposed location for this length of time!]

A RAFT OF BATS

For many years, we have had the pleasure of hosting bats over the summer. In the day, we could hear them rattling about in the attic of an old log house and between the insulation and the roofing material of a heated animal hutch. They used the bat house only once.

During the summer we have a number of rain barrels that catch water for the flower beds. We put lids on the full ones and floating wood in the ones that are not full to prevent drowning. Each morning I usually check the rain barrels in passing. Usually a few large bees need to be rescued, but once we even caught a small bird trying to bathe in a barrel.

One morning I was quite shocked to find five or six Little Brown Bats (*Myotis lucifugus*), soaking wet and crowded onto the piece of floating wood. Intellectually, I know that bats are excellent little creatures who have been given a bad rap, but to see a mass of wet ones instead of a couple of disgruntled bees was a bit startling.



Little Brown Bat, resting after rafting **Carol C. Clarke**

They appeared cold, so we carefully removed their raft and placed them in the warm windowsill of the old log house and on a large plywood wheelbarrow that was leaning against it. Some climbed up the wall and some flew to the nearby trees where they immediately turned upside down for a nap.

After drying and warming up, one (Figure 1) turned upside down on the barrow, where it stayed most of the day. It left late in the afternoon.

No drowned bats were found in the rain barrel, so we were happy to have rescued the lot. However, we are unsure why, with so many bird baths available – one was about 6 feet away – that they decided to drink in the rain barrel. We fitted it with a screen lid and had no more bat rafting expeditions.

- *Carol C. Clarke*, PO Box 1478, Tisdale, SK, S0E 1T0

◆

"The spectacular shifting sands [of the Lake Athabasca Sand Dunes] constitute the largest active dune environment in Canada, as well as one of the largest in the world north of 59 degrees latitude. Spread over a belt of some 1,500 square kilometres, largely between the major north-flowing rivers – MacFarlane River on the east, Dumville Creek and William River on the west – the extent of the dunes is such that from a distance, on cloudy days, they project on the sky a strange coppery glow."

Stan Rowe, Home Place p. 97

HOMILY ON ASPEN LEAVES

Pull one leaf from an aspen tree
study the routes charted there
Every spring, as the earth warms
a pilgrim's path unfurls
from each sticky bud
Veins are the ancient atlas
from which the master builder
taught clansmen to gather for prayer
salmon to run for home
glaciers to find the sea

Should maps bore you
then listen
the wind's vocal chords
are aspen leaves
dancing on the end of petioles

If for you this jostling frolic
is but a cacophony
Pull one leaf from an aspen tree
put lips to spring's skin
Taste the sun

After seven rigid months
sap pulsates
through grey-thatch aspen groves
fluffing them into green pillows
as lake ice rots away

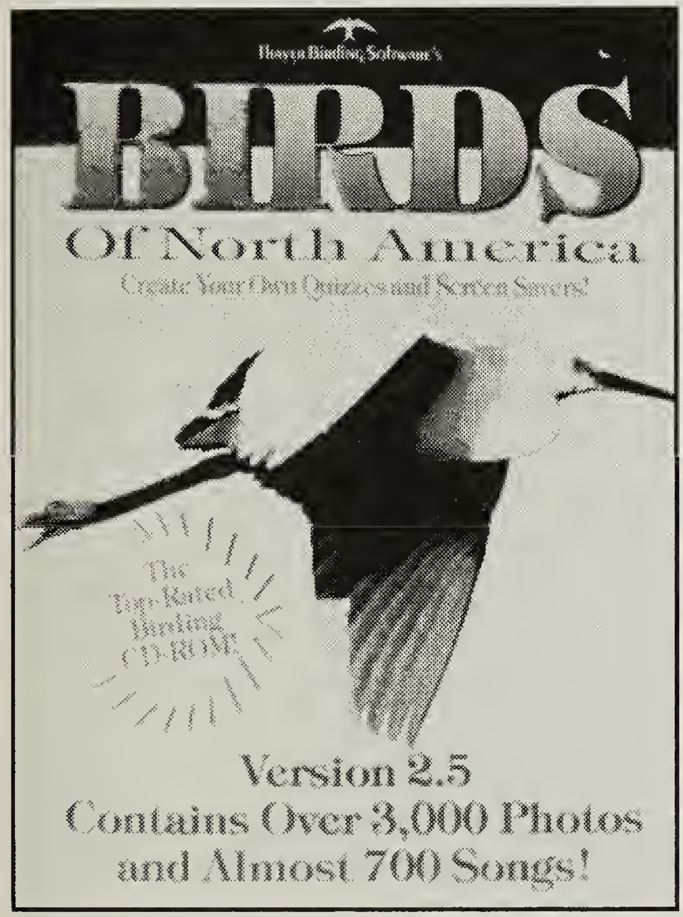
Celebrate this spectacle,
learn more of life's architecture
Lift your hands to the sky
Pull one leaf from an aspen tree

- *Rod Thompson*, Box 336, Prince Albert, SK S6V 5R7

NATURE LIBRARY

BIRDS OF NORTH AMERICA CD-ROM VERSION 2.5

PETER W. THAYER and J. DAVID DIEHL. 1998. Thayer Birding Software, Naples, FL. CD-ROM. $79.95. ISBN 1-887148-13-2. Available from the Nature Saskatchewan Bookshop.


Thayer Birding Software's
BIRDS
Of North America
Create Your Own Quizzes and Screen Savers!
The Top-Rated Birding CD-ROM
Version 2.5
Contains Over 3,000 Photos and Almost 700 Songs!

With the continuing improvements in computer technology, it is now practical and inexpensive for birders to use computer software as part of their 'toolbox'. Currently, there are two kinds of birding software: listing and instructional. Listing software allows birders to store their observations in a database and easily generate lists and reports of their observations. In contrast, instructional software allows the birder to select illustrations, vocalizations, range maps, video clips and other details about species of interest.

The Birds of North America CD-ROM Version 2.5 is a complete instructional birding software package. The main instructional section is called Birds of North America (BNA). It provides information on all 925 species found in North America. (In spite of the similarity in name, it is unrelated to the monograph series, The Birds of North America edited by Poole and Gill.[2]) There are five other sections: Bird Quizzes, Avian Jukebox, Birds of the World Sampler, The Birder's Handbook and Joy of Birding. The CD-ROM also includes a helpful guided tour of the program that can be printed out for easy reference.

The Birds of North America (BNA) section has multiple photographs, range maps, maps of summer and winter abundance, song or call clips and sonograms for most North American bird species. There are more than 3,000 photos in this collection. For many species, photos of adults, fledglings, immatures, different sexes, morphs or subspecies are included. The magnifying glass icon allows you to zoom in for a better look at photographs. Most are good to outstanding, however, a few lack clarity. According to Thayer Birding Software, the loss of clarity is due to the change in the monitor display standard from VGA to SVGA, and this problem will be fixed with next version of the software. There are also over 1200 songs, call and chip notes from the Cornell Laboratory of Ornithology for 698 species in this program. The sound quality is superb. Short video clips are included for 121 species. More video clips would have further enhanced BNA.

A number of BNA features are extremely useful. One can click on the order name and family names to learn about the taxonomic groups to which a species belongs. The duck and ruler icon and the duck on nest icon both lead to field guide information about the species. The duck and song note icon will play the bird's song or calls. The BH book icon brings up the species account in the Birder's Handbook. Best of all, it allows you to listen to songs or calls while looking at the photographs.

The 'Identify' button on the menu bar is really helpful if you cannot identify a bird seen in the field. One enters colours, size, location (state or province), type of bird and habitat type. The identification function works best with precise information. The comparison button allows the birder to see or hear two birds side-by-side. The comparison function is great for comparing similar-looking or similar-sounding species or sexes.

The view button allows the playing of songs and calls and the displaying of their sonograms. In addition, sound mnemonics will be displayed in a dialog box. If you have a computer compatible microphone, you can record sounds and generate and play the sonograms of your recorded sounds.

Clicking on the observation button will reveal a dialog box for recording field observations (maximum 255 characters per record). To store more complex observations, additional software such as Thayer's companion listing software, Birder's Diary is needed.

As a regular user of Windows based programs, I found the overall arrangement of icons and submenus logical and relatively easy to use in BNA. However, I found scrolling the long list of species a bit awkward for a species search. The list feature will generate short lists of species. These lists can be used in species searches instead of using the entire 925 species list. One can change the ordering of birds in the list by choosing common or scientific name in alphabetical or taxonomical order. In addition, these lists can be used to generate custom quizzes, audio wallpaper and neat audiovisual screensavers.

One of the best parts of the Birds of North America CD-ROM Version 2.5 program is the bird quiz component. There are over 250 quizzes of varying difficulty. One can select from a variety of predefined quizzes or customize quizzes by selecting one of geographical areas, bird families or self-generated lists. Birder's Diary (not included in this CD-ROM) is needed to use the custom checklist and species not on the life list for the Observer functions. One can decide which items to include in the quiz: photos (random or best), sounds, range maps and/or alternate media (which allows use of multiple photos, maps and video clips). There are three test types to choose from: multiple choice, fill-in-the-blank and flash card, and one can set the timer between 0 and 60 seconds before the answer is given for each question.

The third section of the CD-ROM, the Avian Jukebox, will play bird songs all day if desired. The choices are identical to those for bird quizzes. This screen can be minimized to create audio wallpaper while you work on other computer programs. The sound quality is outstanding.

The Birds of the World sampler is a photo collection of 400 unusual and colourful birds from other continents.

Bird songs are included for five species. This section is organized in the same way as BNA and the quality of photos is the same. I suspect this section was added as a bonus to fill leftover space on the disk. Basic field guide information and more songs for these species would have greatly enhanced the utility of the sampler.

The Birder's Handbook is a classic reference work by Ehrlich, Dobkin and Wheye.[1] You can reach this section from the main menu or from the BH book icon in the Birds of North America section. One uses hyperlinks to go to different topics in this electronic version of Birder's Handbook. This version is organized as a Windows help document. The electronic version contains information for 689 species and 249 essays about bird behaviour, natural history and ornithological pioneers. However, references are not included because of space limitations.

The Joy of Birding is the link to articles and websites relating to getting started in birding, checklists, bird identification, backyard birding, birding around the country (United States and Canada), birding around the world, birding tools, scientific classification, birding organizations and the commercial Birder's Mall. I found the bird identification section, the backyard birding section and the article on Sibley's classification of birds by Salzman very interesting.[3] The list of local and regional 'bird clubs' appears to be thorough for Alberta but skimpy for Manitoba and Saskatchewan. For the Prairie Provinces, the Bird Alert numbers include Regina, Calgary and Edmonton.

This software is designed to run smoothly with Windows versions 95, 98, 2000, ME and NT. Mac users will need Windows emulation software such as Virtual PC or Softwindows. The minimum system requirements are modest for this complex and large program: a Pentium 90 processor or equivalent, 16 MB of RAM, SVGA display, high colour video drivers, 4X CD-ROM drive, MPC compatible sound card (e.g., SoundBlaster) and 29 MB of hard drive space. Like other programs, this software will run more quickly with a faster processor, faster CD-ROM drive and more RAM. If one has a large hard drive, one can store a copy of the program there to enhance program speed and reduce wear on the CD-ROM disk.

I have not had a serious problem with this CD-ROM in a Windows 98 environment. Help is available electronically and is very user friendly. The Thayer Birding Software website has an excellent section on common software questions and answers. Technical support is available by e-mail or through their toll-free number.

This CD-ROM cannot replace field guides or bird song tapes or CDs that can be taken into the field but it is a fun and extremely useful educational tool. It has truly helped me to improve my birding skills. The $80 cost seems expensive but it is really a bargain because of the number of items included. Therefore, I rank this well-designed product 8.5 out of 10 and I highly recommend it for all birders as part of their birding toolbox.

1. Ehrlich, Paul R., David S. Dobkin, and Darryl Wheye. 1988. The Birder's Handbook: A Field Guide to the Natural History of North American Birds. Simon and Schuster Inc., New York, NY.

2. Poole, A. and F. Gill (eds.). 1992-in progress. The Birds of North America. The Academy of Sciences, Philadelphia PA; American Ornithologists Union, Washington, DC.

3. Salzman, Eric. 1993. Sibley's Classification of Birds. *Birding*. December Issue.

Reviewed by Robert Warnock, 4107 McPhail Avenue, Regina, SK, S4S 1G1. E-mail: warnockr@accesscomm.ca

* * *

WILDFLOWERS OF ALBERTA : A GUIDE TO COMMON WILDFLOWERS AND OTHER HERBACEOUS PLANTS.

KATHLEEN WILKINSON. 1999. University of Alberta Press, Edmonton. xix+364 pp. Soft cover $26.95 ISBN 0-88864-298-9. Available from the Nature Saskatchewan Bookshop.

The format of this field guide is useful for educators, naturalists and life-long learners. This book is the standard guidebook size, with excellent colour photographs (some very artistically back lit) and includes line drawings. Appendices include keys to the major families, comparisons of new and old taxonomy, selected references and an alphabetized species index arranged by flower colour as well as an alphabetical index to species. There is also a glossary that refers to species and diagrams by page number – essential for encouraging learning of botany. The rounded corners help the book maintain its shape even when repeatedly pulled out of a pack in the field.

The intent of the book is not merely to identify Alberta wildflowers but to encourage readers to further their self-education. Greek or Latin name derivations help anchor the descriptive meaning of plant names, or relate to the plant's anatomy, growth habits and habitat. I like the regular use of two photos per species – a close-up to show details and a more distant one to show growth habit. The line drawings help illustrate plant anatomy, although there are some empty spaces where more and/or larger line drawings, especially of seeds, could have been included. Highlighting and bolding of text draws the eye to important or distinguishing characteristics, a helpful feature when one is in a hurry. Especially useful in making the text interesting is the inclusion of examples of the many uses Indigenous people have made of these plants and reference to, and description of, the six Alberta habitat types. The larger families are introduced with a descriptive paragraph. This often provides information such as the function of mycorrhizal fungus in orchids and thus why such plants must not be transplanted.

Suggestions for the next reprint would be to enlarge the font, which is small for aging eyesight or poor light - such as campfire. The line drawings could include a scale. The colour on some of the purple flowers, including Purple Prairie-clover and Purple Loosestrife, is too red. The photograph of the Dotted Blazingstar also shows an atypical growth habit. Some of the photos are too small to be useful; the photographs of White Sweet-clover, Skeletonweed, coralroot and Green False Hellebore would all be improved by being larger.

These criticisms of a fine and very reasonably priced book are small. I would highly recommend it to Albertans, anyone Alberta-bound and other prairie dwellers who share the aspen parkland, boreal forest and prairie with Alberta.

Acknowledgments:

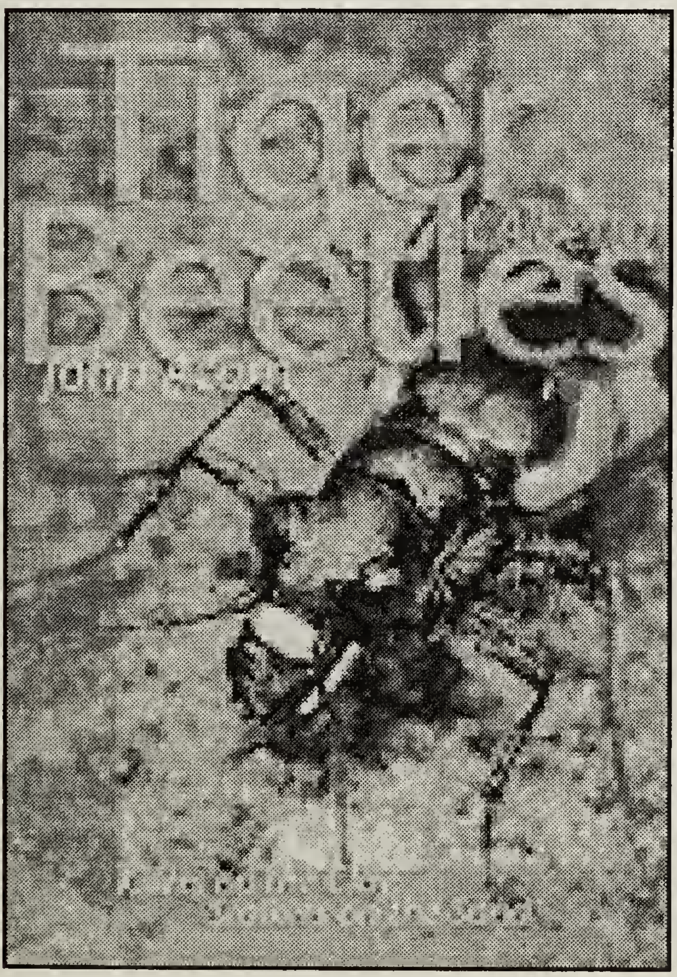
Thanks to the University of Nebraska Lincoln, Great Plains Research, Center for Great Plains Studies for supplying me with the book. Thanks to Peter Jonker for editing advice.

Reviewed by Melanie Elliott, Club SEE Nature Programs and Educational Tours, University of Saskatchewan, Extension Division, Saskatoon, Sk, S7N 5C8

* * *

TIGER BEETLES OF ALBERTA - KILLERS ON THE CLAY, STALKERS ON THE SAND

JOHN ACORN. 2001. University of Alberta Press, Edmonton, Alberta. 120 pages. Soft cover $19.95 Can. ISBN 0-88864-354-4



There is a great new book for naturalists : *Tiger Beetles of Alberta - Killers on the Clay, Stalkers on the Sand.* With this book you can easily identify the tiger beetles and learn about these fascinating creatures. The great thing about the book is that it identifies the beetles by field marks and not dissected body parts, as many insect identification books are prone to do. Its many photos and drawings allow the reader to really learn what the beetles looks like so they can be quickly identified in the field.

The book has colour photos and colour line drawings of each species, subspecies and morph as well as detailed maps of the Alberta and North American range of each beetle. There are a couple of pages devoted to each species in which the author gives detailed clues for field identification, explains the derivation of the name, and discusses the races and colour morphs you might find. He gives detailed descriptions of the habitat of each beetle and includes photos illustrating where each is found. He also describes their life history and lists the best places to find them in Alberta. Dispersed throughout the book are interesting facts about Tiger Beetles and anecdotes by the author which are a pleasure to read.

Although it covers only Alberta's tiger beetles, it is useful in Saskatchewan since there is only one Saskatchewan tiger beetle that doesn't occur in Alberta, *Cicindela terricola*, and it is discussed with the Grass-runner Tiger Beetle, *C. cinctipennis*. There are also two Saskatchewan subspecies of the Beautiful Tiger Beetle, *Cincindela formosa,* that do not occur in Alberta: *C. f. generosa*, and *C. f. gibsoni*. The latter is discussed in the book, but not *C. f. generosa* although it is still identifiable, since it looks like a brownish *C. f. formosa*.

There is a chapter that extols the joys of tiger-beetling and one that explains why these beetles should be protected. The author also pays tribute to those who have been collecting, classifying and studying these creatures over the years. The book even contains detailed photos showing how to hold tiger beetles and illustrates how to set up a "simple elegant tiger beetle terrarium", which the author claims is "an understated item which will harmonize with any decor".

This book appeals to a wide audience. Our 7-year-old grandson, Calvin, loves it, has spent hours reading it, and says it's "cool". Felix Sperling, an entomology professor at the University of Alberta is also enthusiastic about the book and described it this way on the albertanaturalist and albertabugs mailing lists: "This book is a work of art in the truest and nicest sense of the phrase. John's text ranges from poetic to erudite to wonderfully goofy. The photos and drawings are extraordinarily evocative as well as useful. The book is structured in a way that 'works', both to draw people in and to keep them interested."

One word of warning, people reading this book are in danger of becoming Tiger Beetle Nerds. Even if you are not particularly interested in tiger beetles when you pick it up, you will be when you put it down.

The only thing lacking in the book is an index; however, the book is well enough organized that it is quite easy to find things without it. The set of drawings on the last 5 pages of the book give the page numbers where the species are discussed.

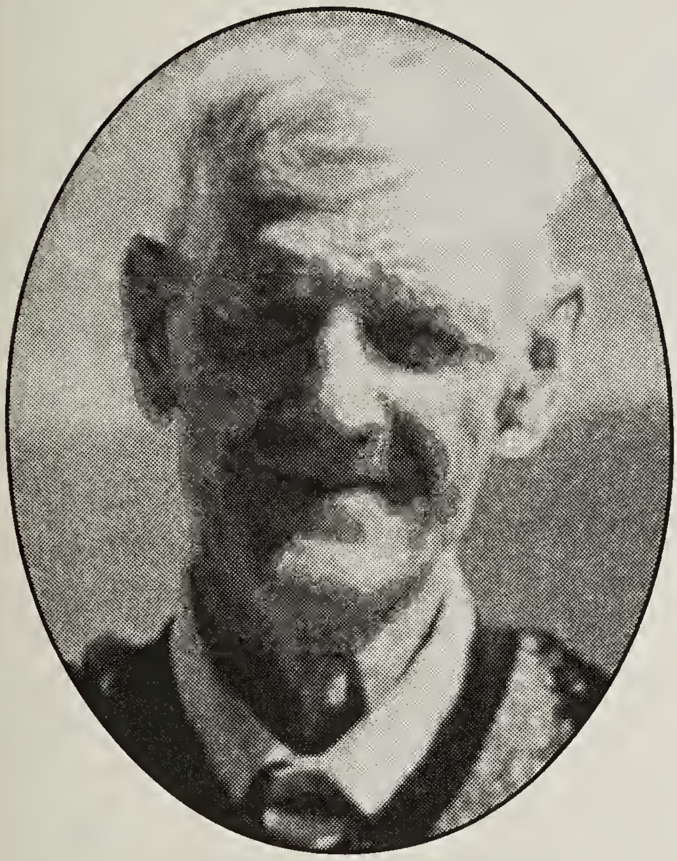
The worst thing about the book is that now when we are out on serious butterfly counts or bird surveys our attention is going to be drawn from the job at hand to these fascinating beetles. The best thing about this book is that there will be others in the series. Books on dragonflies, damselflies, ladybugs and larger moths are in the works.

Reviewed by Barb and Jim Beck, Department of Renewable Resources, 751 GSB, University of Alberta, Edmonton, Alberta, T6G 2H1, Barb.Beck@ualberta.ca and Jim.Beck@ualberta.ca

IN MEMORIAM

WILLIAM MCINTYRE NIVEN, 1906 - 2001

C. STUART HOUSTON, 863 University Drive, Saskatoon. SK S7N 0J8



William McIntyre Niven

William McIntyre Niven was born in Winnipeg, Manitoba on 12 May 1906. His parents, recent Scottish immigrants to Canada, settled on a homestead in aspen parkland 5 miles north of Sheho, Saskatchewan, in July 1910. Bill Niven became interested in birds while attending nearby Newburn School. During the 1920s he worked for the Royal Bank in Sheho for about a year. During the Second World War he spent six months in the Canadian Army, but was discharged after suffering a jaw injury during army drill in Halifax. The remainder of his life was spent farming with his younger brother, George, beside Salt Lake; the two bachelors eventually added 800 acres to the initial 320 acre homestead.

In 1920 Niven purchased, second-hand, a 1903 one-volume printing of Nuttall's *A Popular Handbook of the Birds of the United States and Canada.* This book sufficed until 1943, when he invested in Taverner's *Birds of Canada.* He did not purchase binoculars until 1958. He began keeping bird migration dates in small notebooks in 1919. A frugal man, he crowded migration dates for 1919-1927 onto 38 pages, and for 1939-1945 onto 26 pages. From 1946 through 1973, he entered his records in four successive copies of the *Farmer's Pocket Ledger*, each a 52-page booklet supplied free by the John Deere farm equipment company, with the name of the local dealer printed on the outside cover: in turn, F. Wunder of Sheho, Richard Sandness of Foam Lake, and then two booklets from William and J. R. Taylor of Invermay. From 1974 through 1989, he filled all 50 pages of a United Grain Growers booklet.

When the Yorkton Natural History Society was formed in the fall of 1942, Niven was one of the first subscribers to the mimeographed *Blue Jay.* He felt this publication was worth more than the 25-cent-a-year fee and sent a donation of one dollar to the editor, Mrs. Isabel Priestly. My correspondence with him began at that time, and three years later I visited the Niven farm for the first of many times. Late in 1942, he sent Mrs. Priestly spring dates for 1942 and notes on abundance for 155 species. Niven contributed regularly to the early volumes of *Blue Jay* (six observations and 8 short articles). He corresponded regularly with Mrs. Priestly until her death in 1946; his final *Blue Jay* contribution, to the 50th anniversary issue in September 1992, was a reminiscence of this correspondence.

Sheho was one of 8 localities in Saskatchewan's first province-wide Christmas Bird Count in 1942, with Niven's count of 10 species and 102 individuals. He again contributed Christmas Bird Counts from 1946 through 1955, observing 8 to 12 species during daily chores on the farm, often on Christmas Day or Boxing Day. Only in 1954 and 1955 did he augment his count by travelling 5 and 3 miles, respectively, by car. In 1954 he walked 3 miles and in the 1955 count, his last, he walked six hours looking for birds.

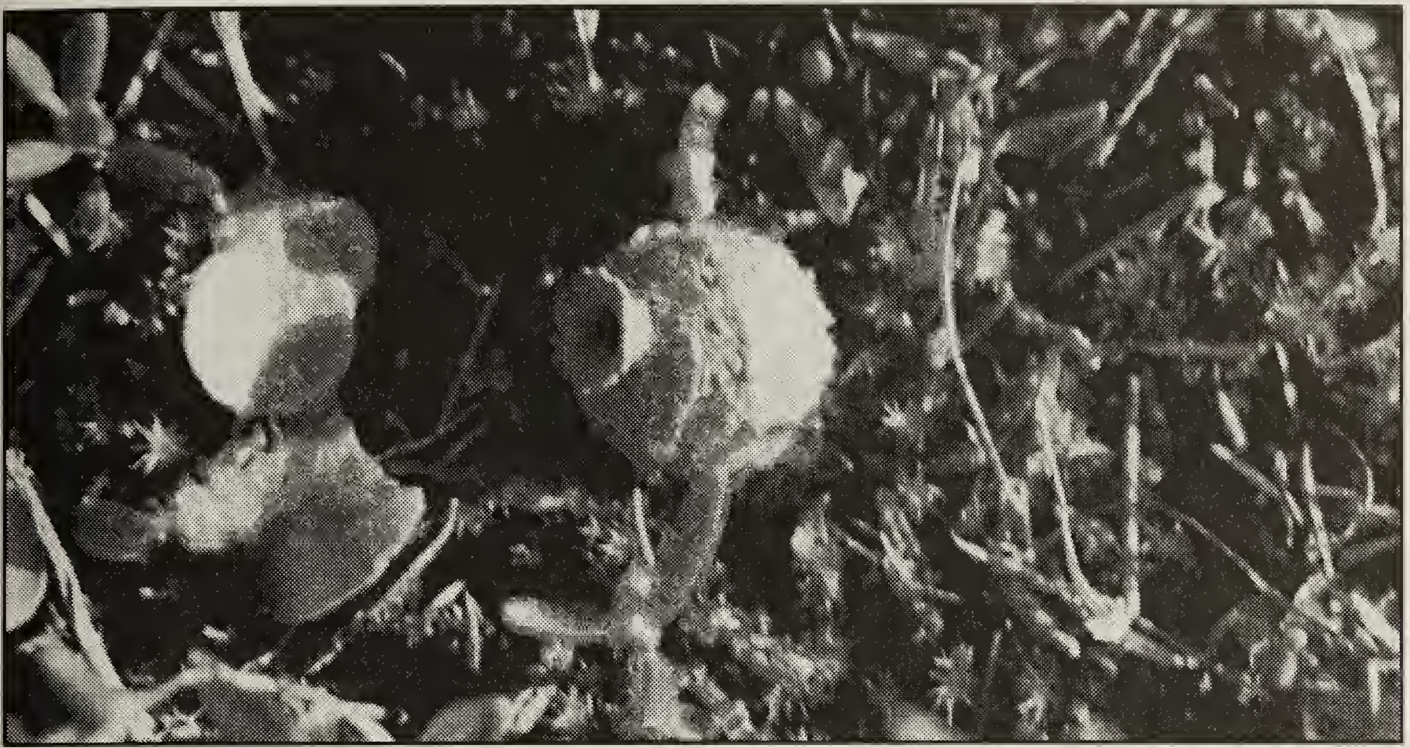
When "Birds of the Yorkton district, Saskatchewan" was published in the *Canadian Field-Naturalist* in 1949, nearly half of each year's early spring arrival dates were from Niven's observations at Sheho, since he was literally "in the field" each day. Most Yorkton observers who contributed dates relied mainly on Saturday and Sunday observations. Although an enthusiastic conversationalist whenever he encountered a fellow birder, he could almost be categorized as a recluse. He rarely ventured from the farm, and then only for short trips to Sheho, Invermay and Foam Lake.

Early in 1973 Niven sent me his lifetime annotated list of 201 species. Bernie Gollop and I then asked him for additional information and expansions on certain observations. The result was a superb article, "The land, the birds, through 50 years in aspen parkland," which appeared in *Blue Jay* in December 1973 (31:223-229), telling of the changes in habitat and bird life. His brother George died in 1974. In 1980, Niven sold his land to Jim and Evelyn Laird, and purchased a house near the north end of the village of Foam Lake, overlooking the countryside. There he transplanted trees and grasses from the farm and kept an immaculate garden with magnificent flower displays and sunflowers for the birds. He retained the use of the farm home as well, mostly for visits of a few days or a week until about 1993 when he could no longer drive. He was plagued by persistent deep ulcers on his legs, and from 1998 was confined to a wheelchair. With his strong arms, a healthy dose of stubbornness and a keen mind, he maintained his independence. In 2000 he purchased a motor scooter, with which he could visit downtown Foam Lake, half a mile away. From the scooter he also planted and weeded his garden, did some fall clean-up ... and, yes, Evelyn tells us, he got stuck.

Evelyn Laird's eulogy correctly described Niven as "very resourceful, thrifty and fiercely independent. He loved to recite poetry or quote historical facts and the Bible. If it happened that a whistled tune fit in the story, then the listener heard that, too. ... he could whistle [bird] songs to you, clap out the rhythm of their wing beat or pattern of the notes they sang."

After only three days in hospital, Bill Niven passed away at the Foam Lake Health Centre on 1 February 2001. As Evelyn Laird said so well, "Bill chose a solitary life ... the road less traveled." His 1973 *Blue Jay* article is his legacy to posterity.

MYSTERY PHOTO



JUNE 2001 MYSTERY PHOTO

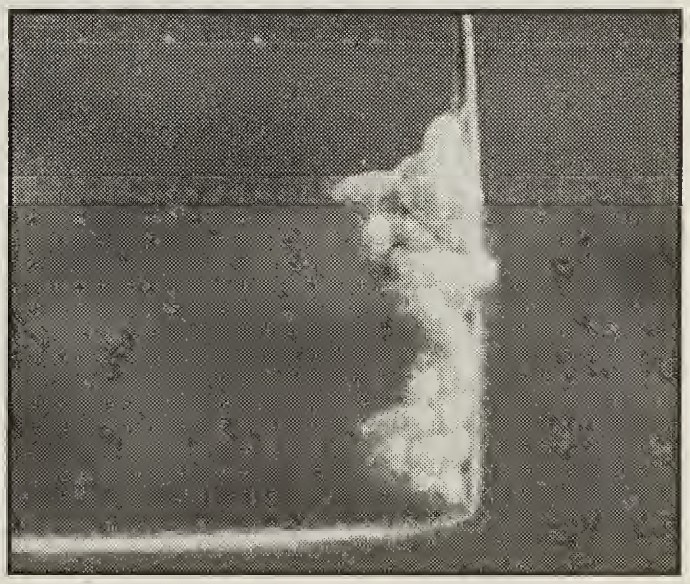
The object in the photo is less than 2.5 cm long and was found in a bog just north of the North Saskatchewan River in Prince Albert. What is it? (photograph submitted by Lewis Bevan).

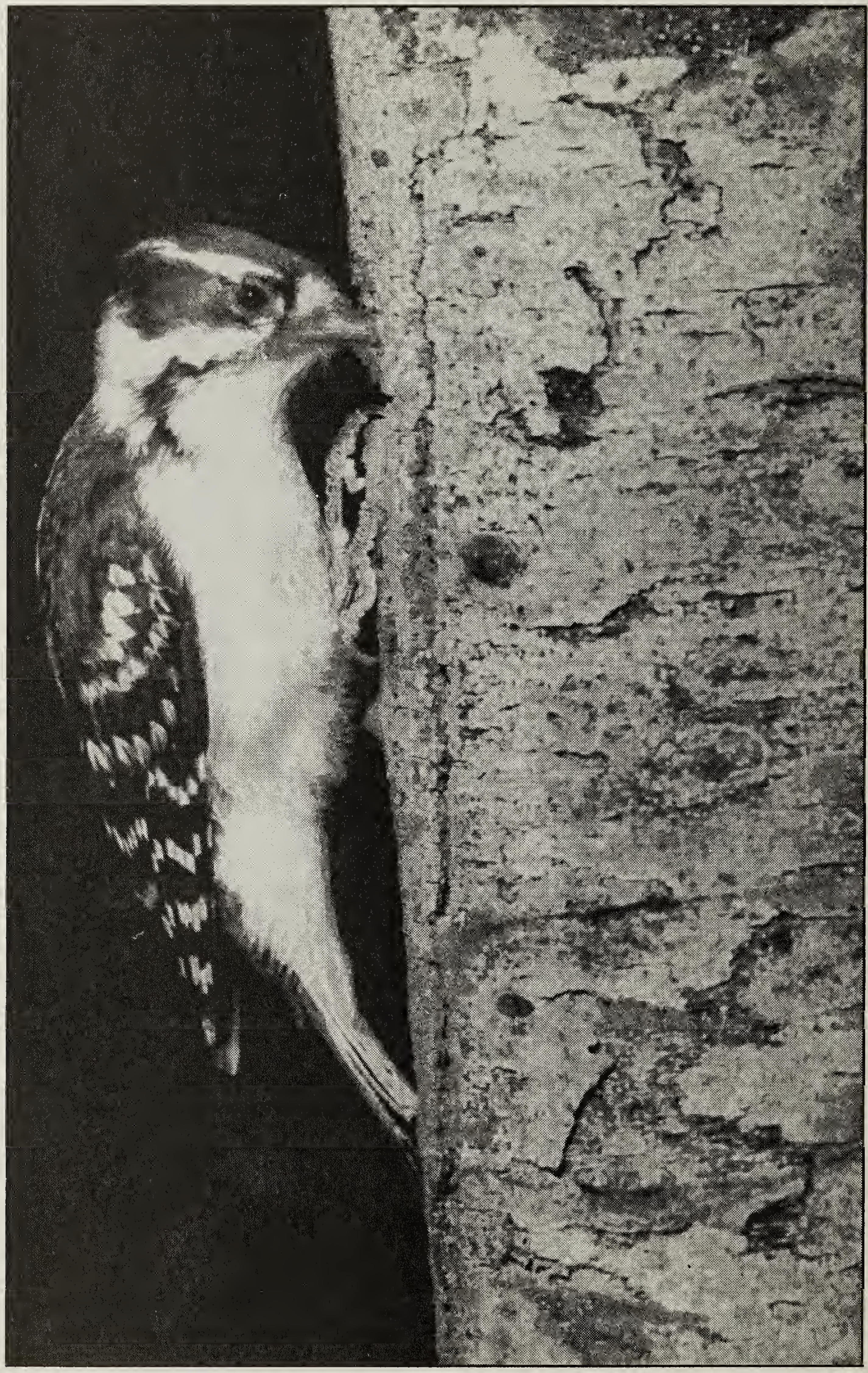
Answer for MARCH 2001 MYSTERY PHOTO

The oblong cases shown in the photo were made by the larvae of parasitic wasps that lived *inside a caterpillar*. The caterpillar was near this spot when the larvae living inside it crawled out to spin cocoons. When the adults emerge from the cocoons, the females seek out live caterpillars in which to lay eggs, repeating the cycle. Sometimes what emerges is not the adult of the larva that built the cocoon, but a different insect that parasitised this parasite.

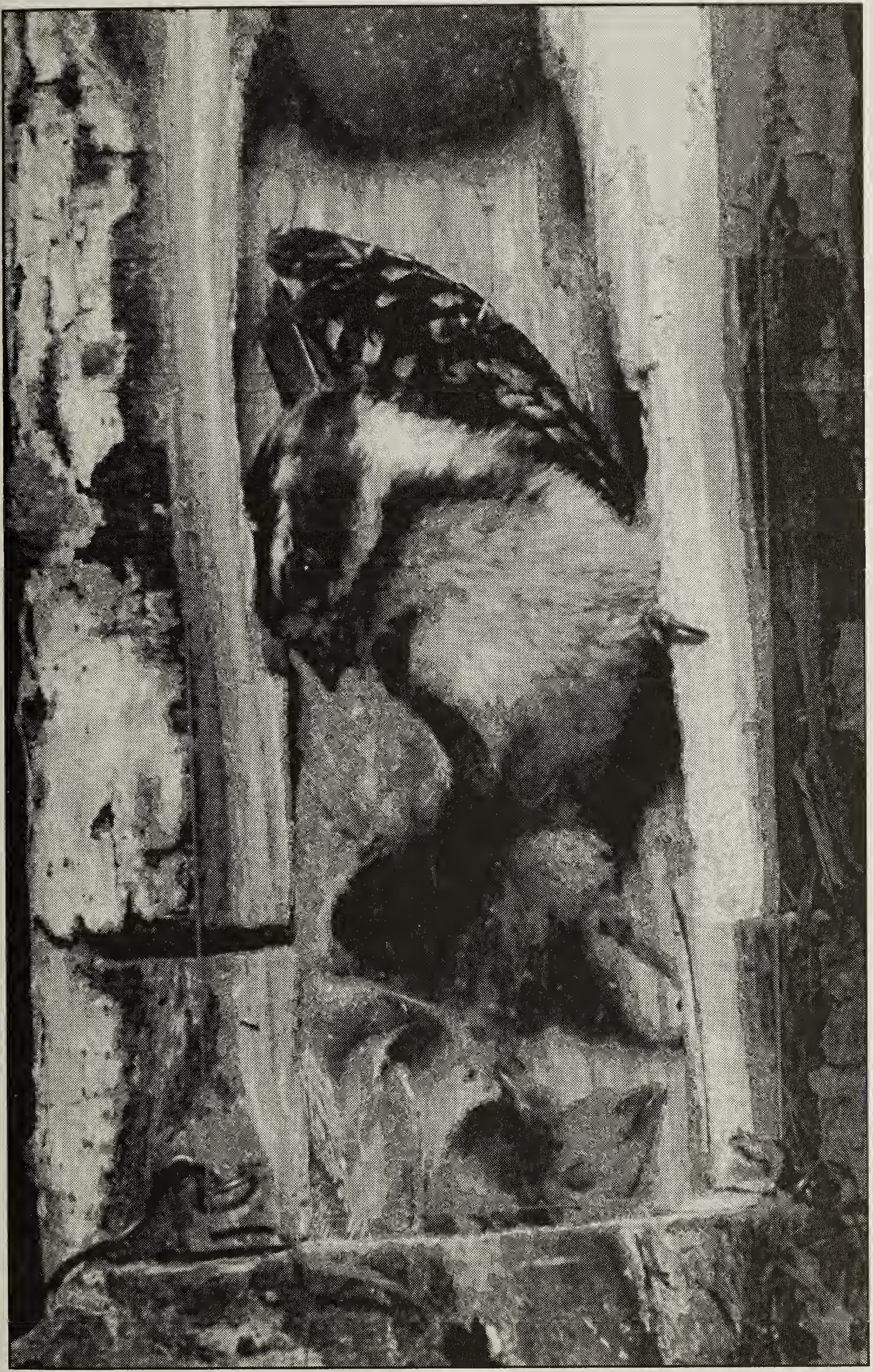
The insect that made these cocoons is a wasp, known as a braconid wasp. In North America there are over 1700 species of braconids, most of which feed on caterpillars of moths and butterflies. The adult wasps are tiny - about as long as this line – . If you want to identify one to species, it helps to know what species of moth or butterfly it parasitises. This would be hard to discover when the parasites live *inside* the caterpillar. These parasitic wasps are considered beneficial to humans and some species have been introduced into agricultural areas to control insect pests.

The editors would like to thank Murray Brown for identifying the insects that emerged from these cocoons and Cedric Gillott for much useful background information.

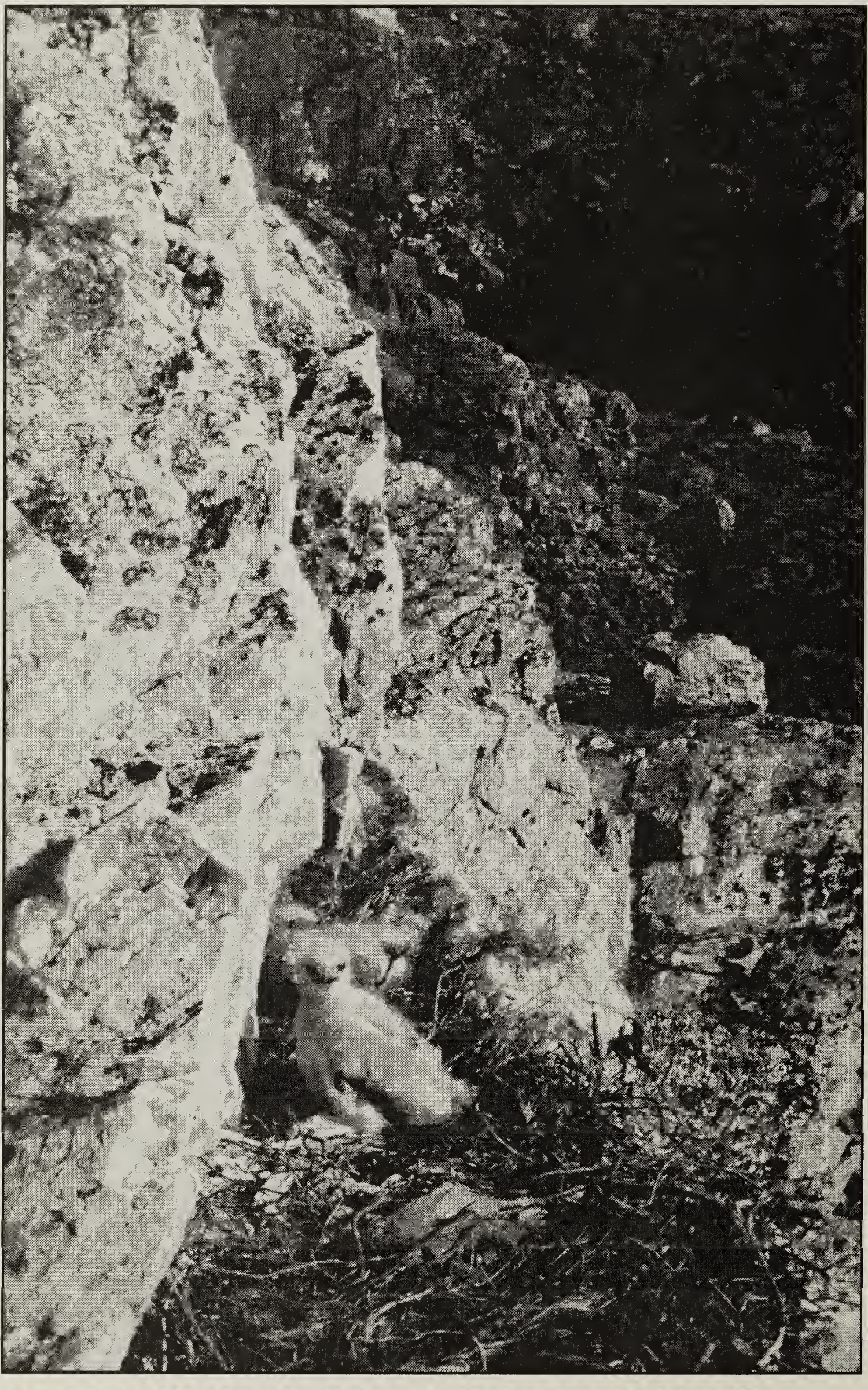




Adult Downy Woodpecker about to enter a nest hole in an Aspen Poplar near Beaver Creek, SK. ***Hans Dommasch***



A plexiglass window on the opposite side of the tree gives an inside view of the male feeding the young. ***Hans Dommasch***



Rough-legged Hawk nest with 2 young. Thelon River. 21 July 1975.

Wayne Renaud

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